

## Social and Economic aspects of BHAGAVAD-GEETA

The Bhagavad-Geeta, "Song of the Blessed One", forms part of the great Indian epic Mahabharata. Its 18 *adhyayas* (chapters) contain the report by Sanjaya of a dialogue between the Pandava hero Arjuna and his Yadu Charioteer Krishna, the eighth incarnation of Vishnu. The actual fighting is about to begin when Arjuna feels revulsion at the leading part which he must play in the impending slaughter of cousins and kinsmen. The exhortations of Lord Krishna answer every doubt through a complete philosophical cycle, till Arjuna is ready to bend his whole mind, no longer divided against itself, to the great killing. The Geeta has attracted minds of bents entirely different from each other and from that of Arjuna. Each has interpreted the supposedly divine words so differently from all the others that the original seems far more suited to raise doubts and to split a personality than to heal an inner division. Any moral philosophy which managed to receive so many variant interpretations from minds developed in widely different types of society must be highly equivocal. No question remains of its basic validity if the meaning be so flexible.

Yet the book has had its uses. If a Mahabharata war had actually been fought on the scale reported, nearly five million fighting men killed each other in an 18-day battle between Delhi and Thanesar; about 130,000 chariots (with their horses), an equal number of elephants and thrice that many riding horses were deployed. This means at least as many camp-followers and attendants as fighters. A host of this size could not be supplied without a total population of 200 millions, which India did not attain till the British period, and could not have reached without plentiful and cheap iron and steel

for ploughshares and farmers' tools. Iron was certainly not available in any quantity to Indian peasants before the 6th century BC. The greatest army camp credibly reported was of 400,000 men under Chandragupta Maurya, who commanded the surplus of the newly developed Gangetic basin. The terms *patti*, *gulma* etc., given as tactical units in the Mahabharata did not acquire that meaning till after the Mauryans. The heroes fought with bows and arrows from their chariots, as if the numerous cavalry did not exist; but cavalry—which appeared comparatively late in ancient Indian warfare—made the fighting chariots obsolete as was proved by Alexander in the Punjab.

The epic began, like the early Homeric chants, as a series of lays sung at the court of the conquerors. The lament was thinly veiled, presumably by irony; the defeated Kurus survived in legend (e.g. the Kuru-dhamma-jataka) as unsurpassable in rectitude and nobility of character. Krishna-Narayana had no role to play even in the first connected epic narrative. Should the reader doubt this, let him read the final cantos of the extant Mahabharata. The Pandavas come in the end to disgraceful old age, and unattended death in the wilderness. Their opponents are admitted to heaven as of right, but the heroes are only transferred there from the tortures of hell, after a long and stubborn effort by the eldest brother Yudhishtira. It strikes even the most casual eye that this is still the older heaven of India and Yama; Krishna-Narayana is not its dominant figure, but a palpable and trifling insertion in a corner.

### For What Class?

We know that the Geeta exercised a profound influence upon Mahatma

Gandhi, Lokmanya Tilak, the 13th century Maharashtrian reformer Dnyaneshwar, the earlier Vaishnava Acharya Ramanuja, and the still earlier Shankaracharya. Though both fought hard in the cause of India's liberation from British rule, Tilak and the Mahatma certainly did not draw concordant guidance for action from the Geeta. Aurobindo Ghose renounced the struggle for India's freedom to concentrate upon study of the Geeta. Lokmanya Tilak knew the Dnyaneshwari comment, but his Geeta-rahasya is far from being based upon the earlier work. Dnyaneshwar himself did not paraphrase Shankara on the Geeta, nor does his very free interpretation follow Ramanuja; tradition ascribes to him membership of the rather fantastic Natha sect. But then, why did Shankara also turn to the Bhagavad-Geeta?

What common need did these outstanding thinkers have that was at the same time not felt by ordinary people, even of their own class? They all belonged to the leisure-class of what, for lack of a better term, may be called Hindus. The consequent bias must not be ignored, for the great comparable poet-teachers from the common people did very well without the Geeta. Kabir, the Banaras weaver, had both Muslim and Hindu followers for his plain yet profound teaching. Tukaram knew the Geeta through the Dnyaneshwari, but worshipped Vishnu in his own way by meditation upon God and contemporary society in the ancient caves (Buddhist and natural) near the junction of the Indrayani and Pavana rivers. Neither Jayadeva's Geeta-Govinda, so musical and supremely beautiful a literary effort, (charged with the love and mystery of Krishna's cult) nor the Vaishnavite reforms of Chaitanya that swept the peasantry of Bengal off its feet were founded on the rock of the Geeta. I have yet to hear that the heterogeneous collection which forms the Sikh canon

owes anything substantial directly to the Geeta, though it preserves verses due to Jayadeva, and the Maharashtrian Namdev. Dnyaneshwar ran foul of current Brahmin belief at Alandi, and had to take refuge about 1290 AD on the south bank of the Godavari, in the domains of Ramachandra Yadava, to compose his famous gloss in the common people's language.

We know as little of the historic action taken or instigated by Shankara and Ramanuja as we should have known of Tilak's had only his Geeta-rahasya survived. Yet, about the year 800, Shankara was active in some manner that resulted - according to tradition - in the abolition of many Buddhist monasteries. That this was achieved by his penetrating logic and sheer ability in disputation is now, the general Hindu belief, the mass of writing left in his name, and what is given therein as the Buddhist doctrine which he refutes, make only one thing clear: that he had not the remotest idea of Goutam Buddha's original teaching. Buddhism as practiced in the monasteries had in any case degenerated into Lamaism with opulent Vihara foundations which were a serious drain upon the economy of the country. That Shankara's activity provided a stimulus to their abolition, and Ramanuja's some handle against the wealthier barons whose worship of Shiva was associated in the popular mind with their oppressive land-rent, seems a reasonable conclusion on the evidence before us.

Shankara managed to discover a higher and lower knowledge in the Upanishads which allowed him "to conform to the whole apparatus of Hindu belief"—whatever that may mean—"on the lower plane, while on the higher he finds no true reality in anything; his logic, it has been well said, starts by denying the truth of the proposition 'A is either B or not B'... At death the soul when released is merged in the absolute and does not

continue to be distinct from it". According to Ramanuja, "if in a sense there is an absolute whence all is derived, the individual souls and matter still have a reality of their own, and the end of life is not merger in the absolute but continued blissful existence. This state is to be won by Bhakti, faith in and devotion to God."

It is not possible to imagine that subtle arguments on these tenuous ideas gripped the masses, that people could be whipped up to a frenzy merely by the concept of restricted dualism (Vishistadvaita) or thoroughgoing dualism (Dvaita). Yet frenzied conflict there was, for centuries. Neither side objected to rendering faithful service at the same time to beef-eating Muslim overlords, who knocked brahmins off without compunction or retribution, and desecrated temples without divine punishment.

The main conclusion is surely the following: Practically anything can be read into the Geeta by a determined person, without denying the validity of a class system. The Geeta furnished the one scriptural source which could be used without violence to accepted Brahmin methodology, to draw inspiration and justification for social actions in some way disagreeable to a branch of the ruling class upon whose mercy the Brahmins depended at the moment. That the action was not mere personal opportunism is obvious in each of the cases cited above. It remains to show how the document achieved this unique position.

### **Remarkable Interpolation**

That the song divine is sung for the upper classes by the Brahmins, and only through them for others, is clear. We hear from the mouth of Krishna himself (G.9.32): "For those who take refuge in Me, be they even of the sinful brands such as women, Vaisyas, and Sudras.." That is, all women and all men of the working and producing classes are defiled by their very

birth, though they may in after-life be freed by their faith in the god who degrades them so casually in this one. Not only that, the god himself had created such differences (G.4.13): "The four-caste (class) division has been created by Me"; this is proclaimed in the list of great achievements. The doctrines are certainly not timeless. Ethics come into being only as they serve some social need. Food-producing society (as distinct from conflicting aggregates of food-gathering tribal groups) originated in the fairly recent and definite historical past, so that the principles upon which it may work at some given stage could not have been expressed from eternity. The Geeta sets out each preceding doctrine in a masterly and sympathetic way without naming or dissecting it, and with consummate skill passes smoothly on to another when Arjuna asks "why then do you ask me to do something so repulsive and clearly against this?" Thus, we have a brilliant (if plagiarist) review-synthesis of many schools of thought which were in many respects mutually incompatible. The incompatibility is never brought out; all views are simply facets of the one divine mind. The best in each system is derived, naturally, as from the high God. There is none of the polemic so characteristic of disputatious Indian philosophy; only the Vedic ritual beloved of the *Mimamsakas* is condemned outright.

To put it bluntly, the utility of the Geeta derives from its peculiar fundamental defect, namely dexterity in seeming to reconcile the irreconcilable. The high god repeatedly emphasizes the great virtue of non-killing (ahimsa), yet the entire discourse is an incentive to war. So, Geeta says that it is impossible to kill or be killed. The soul merely puts off an old body as a man his old clothes, in exchange for new; it cannot be cut by weapons, nor suffer from fire, water or the storm. In G. 11, the terrified Arjuna sees all the

warriors of both sides rush into a gigantic Vishnu - Krishna's innumerable voracious mouths, to be swallowed up or crushed. The moral is pointed by the demoniac god himself (G. 11.33): that all the warriors on the field had really been destroyed by him; Arjuna's killing them would be a purely formal affair whereby he could win the opulent kingdom. Again, though the Yajna sacrifice is played down or derided, it is admitted in G. 3.14 to be the generator of rain, without which food and life would be impossible. This slippery opportunism characterizes the whole book. Naturally, it is not surprising to find so many Geeta lovers imbued therewith. Once it is admitted that material reality is gross illusion, the rest follows quite simply; the world of "doublethink" is the only one that matters.

The Geeta was obviously a new composition, not the expansion of some proportionately shorter religious instruction in the old version. I next propose to show that the effort did not take hold for some centuries after the composition.

#### **Not Sufficient Unto the Purpose**

The lower classes were necessary as an audience, and the heroic lays of ancient war drew them to the recitation. This made the epic a most convenient vehicle for any doctrine which the brahmins wanted to insert; even better than rewriting the Puranas, or faking new Puranas for age-old cults. The Sanskrit language was convenient, if kept simple, because the Prakrits were breaking apart into far too many regional languages; Sanskrit was also the language which the upper classes had begun to utilize more and more. But from 150 AD, there appears a new type of chief who brags in ornate Sanskrit of his achievements, including knowledge of Sanskrit. The Buddhists had begun to ignore the Teacher's injunction to use the common people's languages; they too adopted Sanskrit. The high period of

classical Sanskrit literature really begins with their religious passion-plays and poems, such as those written by Ashvaghosha." A patrician class favouring Sanskrit as well as the Sanskrit-knowing priestly class was in existence.

No one could object to the interpolation of a story (akhyaana) or episode. After all, the Mahabharata purports to be the recitation in the Naimisa Forest to the assembled sages and ascetics by a bard Ugrasravas, who repeated what Vyasa had sung to Janamejaya as having been reported by Sanjaya to Dhritarashtra! The Brahmins were dissatisfied with the profit derived from the Geeta, not with its authenticity. So, we have the Anu-Geeta as a prominent sequel in the 14th Canto (Asvamedha-parva). Arjuna confesses that he has forgotten all the lines, things told before the battle, and prays for another lesson. Krishna replies that it would be impossible even for him to dredge it out of his memory once again; the great effort was not to be duplicated. However, an incredibly shoddy second Geeta is offered instead which simply extols Brahminism and the Brahmin. Clearly, that was felt necessary at the time by the inflators though no one reads it now, and it cannot be compared to the first Geeta even for a moment.

Secondly, the Geeta as it stands could not possibly help any Kshatriya in an imminent struggle, if indeed he could take his mind off the battle long enough to understand even a fraction thereof. The ostensible moral is: "Kill your brother, if duty calls, without passion; as long as you have faith in Me, all sins are forgiven." Now the history of India always shows not only brothers but even father and son fighting to the death over the throne, without the slightest hesitation or need for divine guidance. Indra took his own father by the foot and smashed him; a feat which the Brahmin Vamadeva applauds.

Ajatasatru, king of Magadha, imprisoned his father Bimbisara to usurp the throne, and then had the old man killed in prison. Yet, even the Buddhists - and Jains as well as Brihadaranyaka Upanishad praise the son (who was the founder of India's first great empire) as a wise and able king. The Arthashastra devotes a chapter to precautions against such ambitious heirs-apparent; and shows in the next how the heir apparent could circumvent them if he were in a hurry to wear the crown. Krishna himself at Kurukshetra had simply to point to the Yadava contingent, his own people, who were fighting in the opposite ranks. The legend tells us that all the Yadavas ultimately perished fighting among themselves. Earlier, Krishna had killed his maternal uncle Kamsa. The tale gains a new and peculiar force if it be remembered that under mother-right, the new chief must always be the sister's son of the old.

Thirdly, Krishna as he appears in the Mahabharata is singularly ill-suited to propound any really moral doctrine. The most venerable character of the epic, Bhishma, takes up the greatest of Mahabharata parvas (Shanti) with preaching morality on three important questions: King-craft (raja-dharma), conduct in distress (apad-dharma), and emancipation (moksha-dharma).

As regent, he had administered the kingdom to which he had freely surrendered his own right. He had shown irresistible prowess and incomparable knightly honour throughout a long life of unquestioned integrity. The sole reproach anyone can make is that he uses far too many words for a man shot full of arrows, dying like a hedgehog on a support of its own quills. Still, Bhishma seems eminently fitted to teach rectitude. But Krishna? At every single crisis of the war, his advice wins the day by the crookedest of means which could never have occurred to the others. To kill Bhishma, Shikhandi was

used as a living shield against whom that perfect knight would not raise a weapon, because of doubtful sex. Drona was polished off while stunned by the deliberate false report of his son's death. Karna was shot down against all rules of chivalry when dismounted and unarmed. Duryodhana was bludgeoned to death after a foul mace blow that shattered his thigh. This is by no means the complete list of iniquities. When taxed with these transgressions, Krishna replies bluntly at the end of the *Satya-parva* that the man could not have been killed in any other way that victory could never have been won otherwise. The calculated treachery of the Arthashastra saturates the actions of this divine exponent of the Bhagavad-Geeta. It is perhaps in the same spirit that leading modern exponents of the Geeta and of *Ahimsa* like Rajaji have declared openly that non-violence is all very well as a method of gaining power, but to be scrapped when power has been captured : "When in the driver's seat, one must use the whip."

The main conclusion is surely the following : Practically anything can be read into the Geeta by a determined person, without denying the validity of a class system. The Geeta furnished the one scriptural source which could be used without violence to accepted Brahmin methodology, to draw inspiration and justification for social actions in some way disagreeable to a branch of the ruling class upon whose mercy the Brahmins depended at the moment. That the action was not mere personal opportunism is obvious in each of the cases cited above. It remains to show how the document achieved this unique position.

### **Geeta Today**

The main social problem - was violently placed upon a new footing by Alauddin Khilji and the Muslim conquest which imposed payment of heavy tribute. This intensified the need for more effective



tax collection; that in turn encouraged a new, powerful but more efficient feudalism. Some optimists have maintained that the poorer classes benefited because Alauddin squeezed only the rich, who were rendered powerless. This disingenuous view carefully neglects to mention that even in the Drabs (which were directly administered) none of the former burdens of the peasantry were lifted. Their dues were collected by a different agency, though it remains true that the Hindu upper classes were prevented for a while from imposing fresh extractions. The provinces had not even this consolation, for the throne of Delhi extracted harsh tribute from conquered areas, without troubling itself about how provincial magnates gathered it — and how much more besides. Local military power was reduced only to a stage where it constituted little danger to the imperial forces, but (mechanism of violence more than sufficed for its main purpose, revenue collection. Whether the tribute was actually paid or not, and even over regions not subject to tribute), the imposts and exactions grew steadily. The class that collected the surplus retained an increasing portion, so that the needs of the state could be satisfied only in the earlier period, when feudalism stimulated trade and fresh agrarian production. Then the crisis was aggravated, to be resolved by another foreign conquest that introduced a totally different form of production. The bourgeois-capitalist modern independence movement did not challenge the productive form; it only asked that the newly developed Indian bourgeoisie be in power.

Modern life is founded upon science and freedom. That is, modern production - rests in the final analysis upon accurate cognition of material reality (science), and recognition of necessity (freedom). A myth may grip us by its imagery, and may indeed have portrayed some natural phenomenon or process at a time when mankind had not learned to probe nature's secrets or to discover the endless properties of matter. Religion clothes some myth in dogma. "Science needs religion" is a poor way of saying that the scientists and those who utilize his discoveries must not dispense with social ethics. There is no need to dig into the Geeta or the Bible for an ethical system sandwiched with pure superstition.

Such books can still be enjoyed for their aesthetic value. Those who claim more usually try to shackle the minds of other people, and to impede man's progress, under the most specious claims. Individual human perfection on the spiritual plane becomes much easier when every individual's material needs are first satisfied on a scale agreed upon as reasonable by the society of his day. That is, the main root of evil is social. The fundamental causes of social evil are no longer concealed from human sight. Their cure does not lie in theology but in socialism; the application of modern science, based upon logical deduction from planned experiment, to the structure of society itself. Science is at the basis of modern production; and no other tools of production are in sight for the satisfaction of man's needs. Moreover, the material needs could certainly be satisfied for all, if the relations of production did not hinder it.

D. D. Kosambi  
*(Abridged version of the original article)*

## Shias and Sunnis: The Great Divide

In the history of mankind, many schisms have taken place. Most of them were territorial; many were ethnic. All these have been forgotten subsequently. They were often regarded as scams. Now they are mostly in memory. Even Balkanization, which took place after WWII got readjusted, partly by force, partly by armed intervention and partly by historic necessity.

When the Soviet empire broke into its 14 constituents all the parties willingly accepted the break-up. Only Chesnia is giving/having trouble depending how you look at it. Putin insists that it is part of Russia and does not want it to go away. Chesnia wants to be separate, partly because it is wholly Muslim. In due course, however it is expected that it will work out, though Chesnia has indulged in terrorism. Some day Chesnia will be indistinguishable from Russia or it may spin away into a new republic.

The schism I am talking is one that took place 1400 years ago (Muhammad died in 632 A.D.) It was not territorial, it was not ethnic. The schism that took place was actually not expected. The actors in the split were all ethnically, racially, even religiously one people.

The split took place after Muhammad's death in 632 A.D. Muhammad had not nominated any successor. He was God's Paigambar. Obviously no one could take his place because God was not going to speak to another. In Quran, Sura 33 (40) specifically says that Muhammad is the seal of prophets. There cannot be any prophets after him.

In Madina, where Muhammad died, people refused to accept that Muhammad had died. It was the wise counsel that Abu Bakar made them believe that the prophet is no more. An assembly of Mussalmans elected Abu Bakar as

Caliph. Caliph was the representative of God; as such a personage was felt to be necessary. Abu Bakar's daughter, Ayesha, had been married to the prophet when she was eight years old, but she survived her husband by several years. Abu Bakar was a kind man by the standards of his time. Under him, entire Arabia became Islamic.

Incidentally, Muhammad had ten wives and a concubine, Marie, a Coptic woman. Sura 33, Verse 4 commands a Mussalman not to marry more than four wives. However the rule did not apply to Muhammad, inferentially he could take any number of wives. (All references to Quran are to the edition of Yusuf Ali)

Umar became the Caliph after Abu Bakar. He was, however, killed when in prayer. This was in the year 644. By election Ottoman became the next Caliph, but he was assassinated in 656 A.D. At last Ali, son-in-law of Mohammad (Fatima's husband) became the Caliph. Ayesha was bitter against him and she waged a war against him. But she was squarely defeated and was conducted safely to Medina where she resided. The war is incidentally known as Camel's War because Ayesha rode on a camel to the war. Ayesha is a hated figure by Shias who never name their daughters after Ayesha.

Those who favoured Ali are called Shias. They believe that Muhammad had nominated Ali as the Caliph and that other caliphs were usurpers. Shias also believe that Ali had contributed certain verses to the Quran - a fact which was scandalous to the Sunnies. Quran was dictated by God who spoke only to Muhammad and who would not speak to all and sundry. Sunnis took things as they were.

The role of Ayesha is important in the history of Islam. She was intelligent, sprightly and probably literate. She was the favourite wife of Muhammad. She was

responsible for many of Muhamad's sayings and doings mentioned in Hadith who often consulted her. She was also responsible for the rule regarding evidence about adultery in Islam. That is a long story to be told on another occasion. She is responsible for the great divide about which we are talking today.

Shias do not want to underrate the contribution of Ali to Quran. They firmly believe that Muhammad had intended Ali to be the first Caliph. Shias do not accept the first three Caliphs at all. Even Ali is not, according to them, a Caliph at all but an Imam. Those who accepted the first four Caliphs are Sunnis. The first four Caliphs are Rashidu Caliphs (guided).

This is only the beginning of the story of schism among Moslems. Today Sunnis are predominant. The entire Arab world (except Bahrain) is Sunni. Almost all Muslims in Africa are Sunnis. In the east Malaysia and Indonesia are Sunnis. In India 85% of Muslims are Sunnis. Iran is wholly Shia. In Iraq, 65% of the Muslims are Shias though the country is ruled by a Sunni who belonged to Bathist party (communists) and did not believe in any religion. In later years he - Saddam Hussein - became a believer of Sunni. Part of the explanation for the decade - old war between Iran and Iraq in the 1980's was that a Sunni was the head of Iraq. Even today activities of Shias in Iraq are financed by Iranians.

Going back to history, one should note that part of the middle East was ruled by Muawiyya who was related to Muhammad. They belonged to the same tribe, though not to the same clan. In those days it was a tribal society. Ties of tribalism were very strong. Muawiyya laid claim to Caliphate, accusing Ali of not punishing the assassins of Ottoman. Discontent was growing and in 665 A.D. Ali was assassinated by Kharejite (Muslim fanatic). Thus we see that out of the first four Caliphs (Rashidu), three were

assassinated. The assassination of Ali caused profound sensation. Three Caliphs were murdered. There remained no male descendent of Muhammad. In a judgment dated 12th Nov 1966, Mr. Justice Arnold of Bombay High Court has suggested "Ali was and deserved to be deeply loved, being clearly and beyond comparison the most heroic of that time fertile in hero's..."

National Geographic magazine mentions that Ali's body was tied to the tail of camel and at the place where it stopped he was buried. A big mosque was erected at that place. It is at Najaf, in Iraq of today.

Ali left behind him two sons, Hasan and Hussein. The elder of the two was saintly and recluse. He abdicated his right in favour of Muawiyya in exchange for a large amount of revenue and retired to Mecca. He died due to poisoning by one of his wives allegedly bribed by Sunnis.

Eleven years later, Hussein woke up and yielded to the temptation to become the Imam of Muslims. The people of Cufa (now in Iraq) promised to give support to him. Omayyid of the clan of Muawiyya met him with a large army. Hussein himself was accompanied by his wife, two children and about 25 horsemen. In warlike situation an arrow pierced Hussein who died with one son with him. The son also was killed and his head was paraded throughout Cufa.

This inhuman and heartless act stirred the heart of Islam. Even now after 1300 years, the Muslim community stands divided worldwide into two communities. Both the communities believe in one God; both believe in Muhammad as the last prophet. But the hatred between the two communities is deep and permanent. Hussein was killed on the 10th day of Moharram (it was 9th October 680 A.D.) The day is observed by Shias as a day of tears, sorrow and beating of breasts. Devout Shias distribute dates which were denied to Hussein. There is superb Masjid



in honour of Hussein at Karbala in the then Mesopotamia (now in Iraq). Though Muslims are not superstitious and Islam does not believe in superstition, the sacred dust of Karbala is made into moulds and kissed by Shias.

The following passage by Mr. Justice Arnold brings out vividly the differences between Sunnis and Shias:

*The Sunni preys five times a day; the Shia only three times. The Sunni with his arms folded across his breast; the Shia with his arms held straight down by the side; the Shia venerates Ali and Fatima as something more than mortal and execrates the memory of Abu Bakar, Omar and Osman; the Sunni pays sincere reverence to those three Caliphs and introduces their names into the Khutaba (or Friday prayer) and into the dedicated inscriptions of his mosque; the Sunni in India at least celebrates the Moharam with ribald buffoonery; the Shia with heartfelt lamentations.*

Proceeding further Mr. Justice Arnold says that Sunnis and Shias agree in little else, hating each other with the most cordial (?) and bitter hatred. The quarrel between Ayesha and Fatima is undying in Islam which is still divided by the fierce enmities of the respective participants and partisans of the wife and the only daughter of the apostle who spurred hatred.

The execution of Saddam Hussein is celebrated with glee by the Shias while Sunnis are unhappy about it. In erstwhile Iraq and even now Sunnis and Shias murder each other. Sunnis are requesting the occupying forces (rather unusual) to stay longer and give them equal power along with Shias and Kurds. If Shias and Kurds unite in Iraq, there will be bad blood between Shias and Sunnis. Not only this, bad blood will continue between Iran and Iraq.

Justice R A Jahagirdar (Retd)

### Appeal to Scientists.....

We believe that promotion of a scientific temper is the need of the hour and can play a major role in the moral, ethical, economic and social uplift of our Society.

We in India need today, more than at any time before, the development and practice of an objective and scientific outlook to replace antiquated, emotional and irrational approaches to our problems; some of these approaches derive from implicit faith in superstition, others are dictates of religion, custom, convention and tradition, and most of them are often in direct conflict with scientific knowledge and an open attitude of mind.

We believe that outlooks in and concepts of life cannot be borrowed in their entirety from the past. They have to be continuously tested, sifted and forged anew by each generation

through the practice of ideals, which have their foundation in the ever-growing quanta of knowledge, and through an active tussle with forces opposed to these ideals.

The knowledge gained through the growth of science and technology in modern times has opened up new vistas to mankind. Unimagined possibilities now exist to acquire fresh depths of experience and new ideals, and thereby give a new, richer meaning to human life. This, we believe, is possible only through a large scale nurturing and acquisition of a scientific temper in human society, so that scientific judiciousness and objectivity become universally accepted social and moral virtues.

P.M. Bhargava , S. Dhawan &  
A. Rahman

## Maharashtra Andhashraddha Nirmoolan Samiti

### A Vibrant Organization inculcating Scientific Temper by Eradicating Superstitions

Andhashraddha Nirmoolan Samiti (ANS) has been working in Maharashtra for eradication of superstition and promotion of scientific temperament almost over last two decades. A pioneering work against superstitions has been carried out by eminent personality like Dr. Abraham Kovoov whose life long mission was to teach people to go by reason and not by superstitions. This mission is continued by ANS. ANS's work is also broadened by keeping pace with social reformist movement prevailing in Maharashtra. ANS's main aim is to free people's minds of psychological slavery. Confronted with constant adversities the faceless multitudes take recourse to supernatural and superstitious acts. ANS is determined to fight superstition at the grass root level leading the masses towards a more scientific society.

The Samiti was established in 1989 with the initiative of Dr. Narendra Dabholkar, a successful medical doctor who decided to make propagation of scientific thought as his life's mission. Like minded social workers were gathered under one umbrella forming an organization to fight against superstitions prevailing in various parts of Maharashtra. What started as a small effort soon began a statewide movement.

ANS is committed to cultivate rational moral values in society and to make it a just society as dreamt by social reformers like Mahatma Phule, Agarkar and Dr. Ambedkar. Everyone is aware of the need to be able to think with an open mind and to lead a rational life. ANS is a voluntary organization working through 150 branches located in all over Maharashtra and Marathi speaking areas of Karnataka and Goa too. It does not receive any foreign or Government

funding. It is a people's movement working for the people and solely supported by the people.

The main role i.e. eradication of superstitions is very important and relevant especially today for the majority of Indians, superstition is part of their every day lives. For thousands of years they have been made to believe that unless gods, demons and their human counterparts are propitiated with material goods and unquestioning faith, they will be worse off than they already are. Where answers to problems are sought by performing animistic rituals, rather than by using common sense and reason, the endeavor to eradicate superstitions and inculcate scientific attitude is the only way of emancipating and civilizing people of this part of the world, at this point of time.

#### Superstitions

Who doesn't like miracles? Sometimes millions of people believe in an apparently unbelievable event. Majority of Indian population lives in village with inadequate medical and educational facilities. In times of crisis, these illiterate people take shelter with the so-called 'god men' who attract their clientele by performing miracles. The superstitions like witch craft, *Bhanamati*, possession of spirit and of God/Goddess, ghost haunting, supernatural power, paranormal claims etc. are explained to the people by the ANS activists, through public lectures, demonstrations, street plays, poster exhibitions, etc. Activists demonstrate the miracles performed by god men and explain the trickery/scientific reasoning behind them. ANS has exposed hundreds of so called bogus Babas (god men) who have cheated innocent, gullible people by performing miracles in the name of God. In fact ANS has announced a reward of Rs.

11,00,000 collected in the form of subscriptions from the people for anyone who would successfully perform a miracle defying the laws of science. So far no one has claimed this award.

It is not always the rural people who fall prey to superstition. Sometimes even the educated ones, knowing that there is no scientific basis for their beliefs feel compelled to follow certain practices. What is the psychological reason behind this blind faith?

"Sometimes it is misconceived notion of religion and sometimes deliberate encouragement by vested interest" says Dr. Dabholkar. "People in general are plagued with the ups and downs of the day-to-day living. They are afraid of death, disease, catastrophe, separation from loved ones and loss of material possessions. No one wants to experience sorrow and when faced with prospect of impending doom the emotional rather than rational aspect of brain takes over. This forces them to find supernatural solutions for their difficulties and takes shelter in unscientific beliefs. They go to quacks, god men, and even witch doctors in search of instant remedies unwilling to analyze the situation. This not only causes a drain on their money and time but also has the danger of making the society lethargic believing in destiny instead of action".

#### **Addiction**

ANS believes in the dictum of "A healthy mind in a healthy body". ANS tries to educate children and the old to desist from alcohol, smoking and chewing tobacco, or from taking other harmful drugs or irrational acts that harm one's health and especially the brain. ANS also conducts a special awareness course for adolescent girls about their health.

#### **Clean Environment**

Maharashtra celebrates Ganesh festival on a grand scale. During festival days Ganesh idols, made of plaster of

Paris and decorated with inorganic synthetic colours, are worshipped in every house. The colors used are toxic and plaster of Paris is non-degradable. At the end of the festival, the idols were immersed in the near by water resources like wells, ponds, or river thus polluting the drinking water resources. ANS launched a campaign of awareness regarding the effects of such practices by requesting the worshippers to donate the idols for ecologically undistruptive immersion i.e. immersing the idols in an unused well rather than polluting the drinking water resources. This was highly appreciated by people from all walks of life and worshippers volunteered to donate the idols.

#### **Astrology, Animal Sacrifice and Vaastushastra**

Horoscope is a stumbling block in marriages. Belief in astrology prevents people from leading a free life. For, the notion of 'auspicious and un-auspicious time' hampers all good work and leads to wastage of time and money and an unnecessary fear of the influence of distant stars and planets, which no one can control. To demonstrate the futility of horoscope, ANS activists publicly burned their horoscopes. ANS has also waged war against the custom of animal sacrifice which is a regular practice during fairs in Maharashtra. ANS demonstrated against the animal sacrifice with the assistance of local people and the authorities. ANS also initiated the campaign against Vaastushastra, that misguides people to demolish their houses or reconstruct some portions according to the so-called ancient Indian science of architecture.

#### **Enactment of Law**

ANS is working to bring about a law against superstitious practices like black magic, evil practices and customs prevailing in the State. A debate was held in Maharashtra Assembly but a Bill is yet to be passed. Propagation of scientific

temperament is a duty of every citizen according to Constitution. Superstition is, therefore, anti-constitutional and there should be effective laws to tackle it. ANS wants to expand its sphere of activities and penetrate amongst culturally, socially and economically backward masses who are the victims of superstition.

### **Rallies**

To focus on some of the burning issues prevailing in the areas, ANS periodically organizes rallies to propagate scientific thinking amongst public.

- 'Searching for Ghosts and Enlightening Minds' (Shodh Bhutacha: Bodh Manacha) was one such rally undertaken at the Konkan strip of Maharashtra. In order to annihilate this superstition among the people and make them aware about mind and mental disorders ANS had launched campaigns in five districts of Konkan and approached about 400 000 people.
- A 'Sarp Yatra' was also organized in the Konkan region to wipe out fear about snakes who are 'friends of farmers'. This has a tremendous response from all the districts in Konkan area and Goa too.
- Dakin Pratha (belief in witchcraft) was prevailed in many districts of Marathwada and Vidarbha. Here women in a group start shouting, screaming and rolling over the ground and blaming somebody for their miserable conditions. The person, thus identified is then harassed and sometimes beaten to death. In order to remove the fear of Dakin Pratha, a special campaign was launched by the ANS.

### **Scientific Temperament Project**

With the aim of making the society action-oriented, ANS has devised a program for propagation of scientific temperament. ANS has formulated syllabus dealing with various aspects of superstitions especially for the primary and high school students. Teachers are trained initially in the training camps conducted by ANS in various districts periodically. The trained teachers then

teach these subjects to students in schools. An examination is conducted and certificates are issued to successful students. Under this project, more than 10000 teachers have been trained for last 10 years and around 200000 students appeared for the examination. There are now, approximately 500 centers that are conducting the training camps regularly.

### **Vigyan Bodh Vahini**

A project, "Science on Wheels", has been started two years ago. During this period, 550 rural schools benefited from this project. ANS activists travel to the schools in a special van and with the aid of audio-visual materials like video projectors, slide projectors, posters, scientific toys etc. educate students about scientific attitude and rational thinking.

### **Vivek Vahini**

This is a program for college students who would be able to initiate a change in the society and the nation only if they themselves change. The youth need to understand the real meaning of self-development and strive on the path of developing themselves throughout life. More than 40 centers have been established all over Maharashtra to propagate rational thought

The constant endeavor of the office bearers of ANS is to steer the movement towards action-oriented programs rather than theoretical discussions. This could be achieved only through campaigns and rallies which are planned to the minutest details even taking into consideration the reactionary forces prevailing in those areas. In fact, ANS is not worried about opposition of religious fanatics as much as it is worried about the irrational acts of the bureaucracy. The media coverage given to ANS activities has a positive impact on society and accelerates the process of eradication of superstition. The programs of ANS are considered as an important event in villages and towns.

People gather in large numbers and support the events.

Most of the activists of ANS are groomed to take over the responsibility under the leadership and guidance of Dr Dabholkar, who has vast experience and expertise in the social activities. His connections with countless progressive groups and individuals in Maharashtra is of immense help for successful completion of the projects and programmes undertaken by ANS. Sometimes reactionary forces raise their ugly head to oppose the campaigns and rallies. But the progressive nature prevailing in this State does not allow it to mar the spirit behind the campaign. The organization is dynamic due to active participation of young activists from various parts of Maharashtra. ANS constituted of activists from all walks of life, right from farm laborers to primary and high school teachers to principals and lecturers of colleges and police officers, etc. Even celebrities from film and stage actively participate in ANS programs. This

mix makes the organization vibrant and dynamic for all its action. Most of the issues undertaken by ANS are quite appealing to all in general and women in particular. Women are the victims as well as carriers of superstitions. ANS makes special efforts for participation of women activists in every campaign so that they can bring out the stark reality of exploitation before the victims. This encourages women's participation in large numbers on every campaign and rally.

The activists of ANS practice and preach universal brotherhood. ANS is against any kind of discrimination on the basis of race, religion, caste or gender. ANS believes that to justify the division of human beings on the basis of religion or caste is a primitive concept and the biggest blind faith. While the nation is struggling to get out of medieval mental constraints and approaching new realities with more vigor, organizations like ANS are rays of hope for the future generations, that would lay the foundations of society on rational and scientific principles.

Prabhakar Nanawaty

### What is Scientific Temper?

Scientific temper was a phrase much in Jawaharlal Nehru's vernacular. He reiterated it not only in speaking of science, but also in exhorting his countrymen in diverse contexts. The phrase is an attractive one and has both brevity and comprehensiveness, for *temper* indicates all the hues of man's thinking, nicely qualified to the plausible and rational with the adjective *scientific*. We might pause to define the phrase, or at any rate to envisage its implications for the citizen. It would imply certainly a willingness to consider *all* facts and not merely facts which are in consonance with one's own thinking or comfort. Going further, it would mean an active search for such information by study and questioning. It would also imply a trust that events are shaped by the fruits of man's labour, and a healthy skepticism towards all claims of supernatural participation in his affairs. In fact, the scientific attitude is simply one of an adherence to facts, an ability to revise opinions and a rational skepticism to claims for non-material intervention.

The exercise of scientific temper or scientific humanism is not relevant only to the denizens of a sophisticated and intellectual nation, to whom the fruits and perils of science are obvious. It has perhaps an even more important role to play in an emerging nation. It can induce thought, awaken society from the apathy into which it has fallen, and make the vast population a moulding and creative force instead of a crushing dead weight. In this transformation, every educated Indian has a special part to play. This is the hope—our only hope—for the future.

P M Bhargav



## Darwin and Darwinism

To most people through history it has always seemed obvious that the teeming diversity of life, the uncanny perfection with which living organisms are equipped to survive and multiply, and the bewildering complexity of living machinery, can only have come about through divine creation. Yet repeatedly it has occurred to isolated thinkers that there might be an alternative to supernatural creation. The notion of species changing into other species was in the air, like so many other good ideas, in ancient Greece. It went into eclipse until the 18th century, when it resurfaced in the minds of such advanced thinkers as Pierre de Maupertuis, Erasmus Darwin and the man who styled himself the Chevalier de Lamarck. In the first half of the 19th century the idea became not uncommon in intellectual circles, especially geological ones, but always in a rather vague form and without any clear picture of the mechanism by which change might come about. It was Charles Darwin (Erasmus's grandson) who, spurred into print by Alfred Russel Wallace's independent discovery of his principle of natural selection, finally established the theory of evolution by the publication, in 1859, of the famous book whose title is usually abbreviated to the *Origin of Species*. We should distinguish two quite distinct parts of Darwin's contribution. He amassed an overwhelming quantity of evidence for the fact that evolution has occurred, and, together with Wallace (independently) he thought up the only known workable theory of the reason why it leads to adaptive improvement – natural selection.

Some fossil evidence was known to Darwin but he made more use of other evidence, less direct but in many ways more convincing, for the fact that

evolution had taken place. The rapid alteration of animals and plants under domestication was persuasive evidence both for the fact that evolutionary change was possible and for the effectiveness of the artificial equivalent of natural selection. Darwin was particularly persuaded by the evidence from the geographical dispersion of animals. The presence of local island races, for example, is easily explicable by the evolution theory: the creation theory could explain them only by unparsimoniously assuming numerous 'foci of creation' dotted around the earth's surface. The hierarchical classification into which animals and plants fall so naturally is strongly suggestive of a family tree: the creation theory had to make contrived and elaborate assumptions about the creator's mind running along themes and variations. Darwin also used as evidence for his theory the fact that some organs seen in adults and embryos appear to be vestigial. According to the evolution theory such organs as the tiny buried hind-limb bones of whales are remnants of the walking legs of their terrestrial ancestors. In general the evidence for the fact that evolution has occurred consists of an enormous number of detailed observations which all make sense if we assume the theory of evolution, but which can be explained by the creation theory only if we assume that the creator elaborately set out to deceive us. Modern molecular evidence has boosted the evidence for evolution beyond Darwin's wildest dreams, and the fact of evolution is now as securely attested as any in science.

Turning from the fact of evolution to the less secure theory of its mechanism, natural selection, the mechanism that Darwin and Wallace suggested, amounts

to the nonrandom survival of randomly varying hereditary characteristics. Other British Victorians, such as Patrick Matthew and Edward Blyth, had suggested something like it before, but they apparently saw it as a negative force only. Darwin and Wallace seem to have been the first to realise its full potential as a positive force guiding the evolution of all life in adaptive directions. Most previous evolutionists, such as Darwin's grandfather Erasmus, had inclined towards an alternative theory of the mechanism of evolution, now usually associated with Lamarck's name. This was the theory that improvements acquired during an organism's lifetime, such as the growth of organs during use and their shrinkage during disuse, were inherited. This theory of the inheritance of acquired characteristics has emotional appeal (for example to George Bernard Shaw in his Preface to *Back to Methuselah*) but the evidence does not support it. Nor is it theoretically plausible. In Darwin's time the matter was more in doubt, and Darwin himself flirted with a personalised version of Lamarckism when his natural selection theory ran into a difficulty.

That difficulty arose from current views of the nature of heredity. In the 19th century it was almost universally assumed that heredity was a blending process. On this blending inheritance theory, not only are offspring intermediate between their two parents in character and appearance, but the hereditary factors that they pass on to their own children are themselves inextricably merged. It can be shown that, if heredity is of this blending type, it is almost impossible for Darwinian natural selection to work because the available variation is halved in every generation. Darwin knew this, and it worried him enough to drive him in the direction of Lamarckism. It may also have contributed to the odd fact that Darwinism suffered a temporary spell of unfashionableness in

the early part of the 20th century. The solution to the problem which so worried Darwin lay in Gregor Mendel's theory of particular inheritance, published in 1865 but unfortunately unread by Darwin, or practically anyone else until after Darwin's death.

Mendel's research, rediscovered at the turn of the century, demonstrated, what Darwin himself had at one time dimly glimpsed, that heredity is particulate, not blending. Whether or not offspring are bodily intermediate between their two parents, they inherit, and pass on, discrete hereditary particles – nowadays we call them genes. An individual either definitely inherits a particular gene from a particular parent or it definitely does not. Since the same can be said of its parents, it follows that an individual either inherits a particular gene from a particular grandparent or it does not. Every one of your genes comes from a particular one of your grandparents and, before that, from a particular one of your great grandparents. This argument can be applied repeatedly for an indefinite number of generations. Discrete single genes are shuffled independently through the generations like cards in a pack, rather than being mixed like the ingredients of a pudding.

This makes all the difference to the mathematical plausibility of the theory of natural selection. If heredity is particulate, natural selection really can work. As was first realised by the British mathematician G. H. Hardy and the German scientist W. Weinberg, there is no inherent tendency for genes to disappear from the gene pool. If they do disappear, it will be because of bad luck, or because of natural selection – because something about those genes influences the probability that individuals possessing them will survive and reproduce. The modern version of Darwinism, often called Neo-Darwinism, is based upon this insight. It was worked

out in the 1920s and 1930s by the population geneticists R A Fisher, J B S Haldane and Sewall Wright, and later consolidated into the synthesis of the 1940s known as Neo-Darwinism. the recent revolution in molecular biology, beginning in the 1950s, has reinforced and confirmed, rather than changed, the synthetic theory of the 1930s and 40s.

The modern genetic theory of natural selection can be summarised as follows. The genes of a population of sexually interbreeding animals or plants constitute a gene pool. the genes compete in the gene pool in something like the same way as the early replicating molecules competed in the primeval soup. In practice genes in the gene pool spend their time either sitting in individual bodies which they helped to build, or traveling from body to body via sperm or egg in the process of sexual reproduction. Sexual reproduction keeps the genes shuffled, and it is in this sense that the long-term habitat of a gene is the gene pool. Any given gene originates in the gene pool as a result of a mutation, a random error in the gene-copying process. Once a new mutation has been formed, it can spread through the gene pool by means of sexual mixing. Mutation is the ultimate origin of genetic variation. Sexual reproduction, and genetic recombination due to crossing over see to it that genetic variation is rapidly distributed and recombined in the gene pool.

Any given gene in a gene pool is likely to exist in the form of several duplicate copies, either all descended from the same original mutant, or descended from independent parallel mutants. Therefore each gene can be said to have a frequency in the gene pool. Some genes, such as the albino gene, are rare in the gene pool, others are common. At the genetic level, evolution may be defined as the process by which gene-frequencies change in gene pools.

There are various reasons why gene-frequencies might change: immigration, emigration, random drift, and natural selection. Immigration, emigration, and random drift are not of much interest from the point of view of adaptation, although they may be quite important in practice. It is natural selection which accounts for the perfection of adaptation, for the complex functional organisation of life, and for such progressive qualities as evolution may (controversially) exhibit. Genes in bodies exert an influence on the development of those bodies. Some bodies are better at surviving and reproducing than others. Good bodies, i.e. bodies that are good at surviving and reproducing, will tend to contribute more genes to the gene pools of the future than bodies that are bad at surviving and reproducing: genes that tend to make good bodies will come to predominate in gene pools. Natural selection is the differential survival and differential reproductive success of bodies: it is important because of its consequences for the differential survival of genes in gene pools.

Not all selective deaths lead to evolutionary change. On the contrary, much natural selection is so-called stabilising selection, removing genes from the gene pool that tend to cause deviation from an already optimal form. But when environmental conditions change, either through natural catastrophe or through evolutionary improvement of other creatures (predators, prey, parasites, and so on), selection may lead to evolutionary change.

Evolution under the influence of natural selection leads to adaptive improvement. Evolution, whether under the influence of natural selection or not, leads to divergence and diversity. From a single ultimate ancestor, many hundreds of millions of separate species have, at one time or another, evolved. The process whereby one species splits into two is

called speciation. Subsequent divergence leads to ever wider separation of taxonomic units – genera, families, orders, classes, etc. Even creatures as different as, say, snails and monkeys, are derived from ancestors who originally diverged from a single species in a speciation event.

Since the 1940s it has been widely accepted that the first step in the origin of species is normally geographical separation. A species is accidentally divided into two geographically separated populations. Often there may be sub-populations isolated on islands, where the word is generalised to include islands of water in land (lakes), islands of vegetation in deserts (oases) etc. Even trees in a meadow may be effective islands to some of their small inhabitants. Geographical isolation means no gene flow, no sexual contamination of each gene pool by the other. Under these conditions the average gene frequencies in the two gene pools can change, either because of different selection pressures or because of random statistical changes in the two areas. After sufficient genetic divergence while in geographical isolation, the two sub-populations are no longer capable of interbreeding even if later circumstances chance to re-unite them. When they can no longer interbreed, speciation is said to have occurred and a new species (or two) is said to have come into being. It is controversial whether geographical separation is always necessarily implicated in speciation.

Darwin made a distinction between natural selection, which favours

organs and devices for survival, and sexual selection which favours competitive success in gaining mates, either by direct combat with members of the same sex, or by being attractive to the opposite sex (these are sometimes called intra-sexual selection and intersexual selection, respectively, but the usage is misleading). Darwin was impressed by the fact that qualities of sexual attractiveness were often the reverse of qualities leading to individual survival. The gaudy and cumbersome tails of birds of paradise are a notorious example. They must hamper their possessors in flight, and certainly they are conspicuous to predators, but Darwin realised that this could be 'worth it' if the tails also attractive females. A male who manages to persuade a female to mate with him rather than with a rival is likely to contribute his genes to future gene pools. Genes for sexually attractive tails willy-nilly have an advantage that compensates for their admitted disadvantages.

The philosopher Daniel Dennett has written: "Let me lay my cards on the table. If I were to give an award for the single best idea anyone has ever had, I'd give it to Darwin, ahead of Newton and Einstein and everyone else." Comparative judgments like that are hard to make. The sheer power of the idea, measured as the amount of the extreme simplicity of the idea itself, leaves one astonished that humanity had to wait till the mid nineteenth century before one of us thought of it.

Richard Dawkins

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## One Cannot Fight the Faith

One cannot fight the faith-based politics of Hindu nationalists and the similarly inspired initiatives of the Indian state unless one questions the very foundations of the beliefs and rituals of popular Hinduism itself. One cannot go on “respecting” people’s faith, but then turn around and start questioning them when they actually act upon that faith under the banner of Hindutva.

“New cars smell the same in India as they do in the US”, was the first thought that came to my mind as I took my seat in my nephew’s new Hyundai sedan in which he had come to pick me up from the Chandigarh air port. It was the first of August and I had just arrived in India for a short visit. My hometown was my first stop. New cars in India may have the same leathery-plasticky smell as new cars everywhere, but they look like nothing else in the world. The car that I was riding in, like the tens of thousands that roll out of auto-showrooms everyday all over India, was bedecked in red ribbons and had a garland of fresh marigolds strung around the number plates. The top of the front window had two swastikas and an “Om” painted on it in red colour. The driving-wheel had the “auspicious” red string tied to it. The Ganesh idol on the dashboard had the residue of burnt incense in front of it. My nephew told me that he was coming straight from the temple where he had taken his car for a ‘vahan puja’, a brand new Hindu ritual invented to bless the new vehicles that are clogging the Indian roads these days.

This being his first car – and the object of his loving devotion, at least for now – my nephew told me that he wanted to do something really, really, special for it. That is why, he told me, he took it to the temple where he had to

shell out some serious cash for the ceremony, instead of getting a free puja which his dealership had offered as a part of the incentive package.

“What”? My ears pricked up. I must have sounded incredulous:

“Car dealers offer free pujas? Do they have pundits on their staff now? Car dealerships have become new temples or what?”

My nephew looked at me as if to ask where I had been all these years! This is nothing new, he said. Knowing how popular vahan pujas are, more innovative car-dealers throw in free pujas for their customers. They hire full-time pujaris who do all the required rituals: break a coconut for auspiciousness, make you drive over limes to ward off evil spirits while they recite Sanskrit mantras whose meaning even they do not know. They give you prasad to take home with you. They even take a picture of the ceremony on a digital camera that you can email your friends and relatives all around the world. A puja in a car-dealership feels just like a puja in a temple, really. But he still prefers a real temple and that is why he decided to forego the freebie – my nephew told me this, all in one breathless monologue.

Car-dealerships with in-house pujaris! What a fancy idea, I thought, and how typical of Hinduism to cash in on this new opportunity to adapt to and thrive in these times of globalisation. The pujaris are happy as they can make more money sitting in the air-conditioned comfort of car-dealerships, I am sure. Car-buyers are happy as they can cross out “puja” from their to-do list without any extra money and time. Happiness and contentment all around! I bet even the coconut sellers are laughing all the way to



the bank. (Regular coconut deliveries to auto-showrooms? Only in India!)

### **A Wave of Dismay**

So, what is there to dislike about this Brahman-bania business model? Isn't this simply a creative re-enactment of the eternal partnership between god and mammon? Why, then, did I feel a wave of dismay sweep over my heart? Why do I feel sad at the idea of so many educated young people like my dear sweet nephew – whom I love dearly, and who is so touchingly proud of his first new car – believing that puja adds anything of value to their new vahans?

Something is amiss, I feel, in the way this generation of “modern” Indians is encountering the products of modern science and technology with an utterly medieval or even pre-medieval world view. While they seek out, and revel in every gadget and every creature-comfort created by a purely materialistic and rational understanding of nature, they seem to experience the world as if it is literally crawling with gods who have the power of life and death over our lives. God is as much a part of their taken-for-granted reality as stones, trees – and, indeed, their precious vahans – are. They are indeed suffering from “god delusion”, because, to quote Richard Dawkins who coined the name of this very common disease, “they persistently hold this false belief that the reality we inhabit contains a super-natural agent who designed the universe, maintains it and intervenes in it with miracles, which are temporary violations of his own otherwise immutable laws.” With their pujas they are trying to beseech this super-natural agent to keep an eye out for them. Puja is the premium they eagerly pay for the divine insurance against mishaps and accidents.

Of course, my nephew is worldly-wise enough to buy a real insurance policy. But why does he think he needs the

puja over and above the certificate of insurance lying in the glove compartments of his brand new car? I wondered if he pondered over who or what is this protective power he is bowing to, as he breaks those coconuts and burns the incense? Has too much praying blunted his capacity to wonder and to ask questions? If he can bow to an invisible power purely on faith without asking any questions, will this young man dare to question the many authority figures he will be asked to bow his head to in the rest of his life?

### **Faith as Ideology**

“There you go again!”, an old friend remarked when I shared this bit about free vahan pujas with him when we met in one of the many canteens that dot the Punjab University campus in Chandigarh. He is quite godless himself, but thinks that intellectuals must respect people's religiosity and not presume to be more “enlightened” than them. That way, he fears, lies avantgardism of the Bolshevik kind.

He went on: “Don't you, and people like you in America – all claiming to be so modern and secular – have your own superstitions? Tell me honestly: have you never worn your ‘lucky’ dress for a job interview? Haven't you ever avoided, say, taking a particular route at a particular time of the day? Even Barack Obama, so highly regarded by progressives like you, carries a handful of lucky charms, including a murthy of Hanuman, in his pocket. So why do you get so upset over harmless little quirks of Indians? Let them do their pujas if it brings them comfort in this harsh and cruel society that we are creating. A puja is not harming anyone, is it? Besides, don't you realise that you are replicating the prejudices of English sahibs' toward the natives? Are you not behaving like those Christian missionaries who labeled us as superstitious idolaters? If you want to

reach ordinary people, you have to respect their faith and not look down upon them – like you often do. You have to respect their faith and not look down upon them – like you often do.”

Ouch! I have lost count of how many times I have heard such “friendly” advice to take my hat off, so to say, when speaking of religion. But no matter how many times I hear it, this idea of “respecting” other people’s faith will never sit well with me. I happen to believe that indulging people’s irrational beliefs – like a parent puts up with a child’s follies – does not add up to “respect”. In my rulebook, the best way to respect people you care about is to treat them as worthy conversation partners who can be persuaded by reason (or who may persuade you with better arguments and evidence). The way I see it, engaging people in an honest and open dialogue about the matters of ultimate concern, is to pay them the highest grade of respect that there is.

Besides, I have never been able to understand why my otherwise progressive friends bend over backwards to make exceptions for “the people’s” faith. Indian progressives take the lead when it comes to demanding good reasons and evidence when politicians, government bureaucrats, corporate bosses or the “west” try to sell us some phony idea or products. But their critical faculties seem to desert them when it comes to challenging the religious faith of “the people”, even if that faith ends up causing so much unnecessary suffering all around. When it comes to the beliefs, rituals and the world view of popular Hinduism and other Indian religions, secular and progressive Indian intellectuals tend to behave more like caretakers rather than critics, even though they themselves are quite devoid of any serious religious conviction.

My secularist friends, for example, are on the forefront of the struggle against Hindu extremists – and I respect them greatly for that. But I am also puzzled at their handoff approach toward Hinduism itself. I have lost count of how many times I have heard them proclaim with all seriousness that “Hinduism has nothing to do with Hindu nationalism.” Why is that, pray? Hinduism, they say, is a matter of “faith” (and therefore good) while Hindu nationalism is a “political ideology” (and therefore bad).

But I am afraid this raises more questions than it answers. Is it really the case that religious faith and ideology have nothing to do with each other? When has faith not served as ideology? Isn’t the story of Ramayana simultaneously faith and an ideology of a patriarchal and a caste society? Do my good secularist friends really believe that faith is like a pair of chappals that people leave outside the door marked “politics”? Religious beliefs, or faith, have always supplied the common sense understanding of the world which ideologies mobilise. A consistent secularist has no choice but to challenge both the common sense world view derived from faith, and the political ideologies that resonate with this common sense and harness it for their own ends.

I have yet another bone to pick with those who insist that we must “respect” people’s religious beliefs. Why should we respect beliefs that defy all possible evidence, which thumb their nose at all the accumulated knowledge about how nature works and which have played such a reactionary role throughout India’s history? Just because some beliefs come wrapped up in piety does not make them worthy of respect. All these thoughts were racing in my head as I sat there under a tree. But I bit my tongue and did not say anything: I was

enjoying my visit to the campus where I was once a student, and did not want a debate on such weighty issues just then.

Thankfully, the chaiwallah (a young lad who should have been in school) came just then. We got busy with our chai and bread-pakoras. The junk food of my student days still tastes as good as I remembered it. Some traditions definitely do need to be preserved!

#### **Faith-Based Claims**

I was still mulling over my friend's words next morning when the local newspaper arrived. The headlines announced: "146 die in Naina Devi Stampede". Naina Devi is a popular temple, about 100 km up north of Chandigarh. The temple is supposed to mark the "exact" spot where goddess' eyes (or "naina") fell when her body, reconstituted by her husband god Shiva after she had committed sati was blown into smithereens by the god Vishnu. There are at least 50 other such temples, or shakti-peeths, all over south Asia which lay claim to bits of the goddess's decimated body. (Incidentally, there are at least two other temples, one in Pakistan, which claim the eyes of the goddess.)

What is so "holy" about this terribly violent story escapes me entirely. I also wonder how do they know that the right eye, or the big toe, or the upper tooth or eye of the goddess fell exactly at the spot where the temples stand? No one knows. Besides, it is not appropriate to ask such questions for these beliefs are based upon faith and therefore beyond reason. But wait: the same faith-based claims get trotted out as literal truths when Hindu nationalists want to lay claim on Ramsethu or the Babri mosque or when government-run tourism departments want to promote these sites. The faithful want it – and are having it – both ways in the good old secular democratic republic that is India.

But I am rambling. Let me go back to the terrible stampede. Here is the clipping I saved from The Tribune, August 4:

*More than 146 persons, most of them women and children, were killed in a stampede in the Nina Devi shrine in Himachal Pradesh. More than 200 persons were injured, some of them critically. Since it was the Shravan Ashtami mela on the second day of the Navratras and a Sunday, the crowd of devotees, an estimated 20,000 to 25,000 persons, thronged the popular hilltop shrine. The shrine has little space for such a huge congregation that waited in a serpentine queue to pay obeisance to the deity. So many lives snuffed out so tragically...*

My mind flashed back to what my friend had said yesterday: "harmless little quirks" is how he had described popular Hindu prayers to gods and goddesses. Well, it did not turn out to be all that harmless for these poor souls, I thought. I understand, of course, that stampedes can happen anywhere and at any event without adequate attention to crowd control – be it a rock concert in the US or a political rally in India. Yet, there was something so sad about so many people dying precisely when they had come all the way to ask for divine blessings for happier and longer lives.

Even as I sit here, back in my home in Connecticut, USA, writing about the great temple stampede of August 2008, the national public radio brings me the news of the great temple stampede of September 2008. On September 29, nearly 200 pilgrims gathered at Chamunda Mata temple in the state of Rajasthan lost their lives in a stampede.

One more goddess, one more temple, one more stampede. So it goes ...

#### **Religion Lurking in the Shadows**

Within a week of Naina Devi tragedy, there was another case of utterly unnecessary and perfectly avoidable death and mayhem, this time in the

streets and on the highways of the state of Jammu and Kashmir. Starting on August 11, and lasting for at least a week, there were daily reports of tens of thousand people from all parts of Kashmir marching toward Muzaffarabad, the capital of Pakistan-occupied part of Kashmir, demanding azadi from India. The protestors were trying to defy the economic blockade engineered against Kashmir by Hindu-right affiliated groups based in Jammu. Scores died in indiscriminate police firing and many hundreds were seriously wounded.

This fresh round of political unrest in Kashmir was sparked by religious enthusiasm for an ice stalagmite resembling Shiva's lingam in the famed Amarnath shrine. Incredibly daft though it may appear considering Kashmir's status as the "world's most dangerous place", Hindu pilgrimage to Amarnath temple has been actively promoted by a bunch of state functionaries committed to advancing Hindu interests in this Muslim majority state. The current row was sparked by an attempted land-grab of some 400 acres of forest land by Amarnath temple's management board which, by statute, is headed by the governor of the state (but only if he/she is a Hindu). After the Muslims protested, the land-transfer order was revoked. The revocation of land-transfer, in turn, provoked counter-protests among Hindus who demanded that the land be "restored" to the shrine. Hindu groups, most of them aligned with Hindu nationalist parties, blockaded the trade routes linking Kashmir to the rest of India, provoking the call for "azadi" among Kashmiris who began their march to Pakistan-controlled Kashmir. It was this throng of Kashmiri protestors who had come under fire from the security forces, leading to so many deaths and injuries.

It appears that wherever you find political strife in India these days, you are bound to find religion lurking in the shadows. Religious enthusiasm is to Indian politics what a virus is to pneumonia.

### **Hinduism and Hindutva**

These twin tragedies in the hills got me musing. I began to see the connections between the relatively harmless (not counting the harm it does to the faculty of critical thought) middle class rite of vahan puja, the tragic fate of pilgrims to Naina Devi and Chamunda Mata temples, and the politically disastrous outcome of government-encouraged Hindu pilgrimage in the state of Jammu and Kashmir. I began to see, more clearly than ever before, how the same world view and beliefs of ordinary Hindus that makes them have pujas for their cars and undertake arduous and often life-threatening pilgrimages, also makes them sympathise with – and indeed actively demand – the open, state-sponsored Hinduisation of India that has been going on in recent years.

This led me to see the folly of the secularist argument that popular Hinduism has "nothing" to do with Hindu nationalism. When my secularist friends make such statements, what they mean is that Hinduism has no organic – that is, cognitive, aesthetic and moral – connections with Hindu nationalism, and that "bad" Hindu nationalism has "hijacked," "distorted" or "Semitised" the "good", "tolerant" and "harmless".

### **Hinduism of the masses:**

I have never found this argument persuasive at all, because they believe that the Hinduism that the Hindu nationalists invoke, actually is the Hinduism that the majority of Hindus love, cherish and practice. Even this whole business of making Rama the symbol of India does not really amount to a "hijacking": the god-king Rama and

Ramayana have been central to the political imagination of Hindus for at least a millennium, if not longer.

So, I have always been a skeptic when it comes to “good Hinduism, bad Hindutva” kind of arguments. But after my travels in India this summer, I began to see more clearly than ever before that we cannot fight the faith-based politics of Hindu nationalists and the similarly inspired initiatives of the Indian state, unless we question the very foundations of the beliefs and rituals of popular Hinduism itself. We cannot go on “respecting” people’s faith, but then turn around and start questioning them when they actually act upon that faith under the banner of Hindutva.

What is happening in Kashmir over the land-transfer issue is a perfect illustration of what I mean when I say that secularists cannot continue to “respect” faith while, at the same time, fight against faith-based politics. Let us suppose that out of “respect” we do not question the popular Hindu myth – which is endlessly repeated not just by priests but by the tourist and information departments of the supposedly “secular” state as well – that the naturally formed ice stalagmite in the Amarnath cave is “really” Shiva’s phallic symbol (lingam), and that god Shiva actually revealed the secrets of the universe at this spot to his wife, goddess Parvati. If we grant all that, then on what grounds do we turn around and start criticising the mass mobilisations of Hindus that are taking place not just in Jammu but all over the country demanding that more land be given to Amarnath temple so that more and more Hindu pilgrims can witness the “miracle” of the ice-lingam? Sure, we can criticise political parties and the temple management for their attempted land-grab for a temple in such an ecologically and politically sensitive area. But if we grant that people’s faith – even if it confuses

a natural phenomenon with a divine phallus – is to be “respected”, then why should we not respect their right to demand more land to build better facilities so that they can freely practice their religion?

I have always believed that as long as we do not challenge the world view, the back-ground assumptions, the explicit and tacit beliefs that animate popular Hindu rituals and practices, we will be fighting against the menace of Hindutva with one hand tied behind our backs. For then, we will only allow ourselves to challenge the material and political interests of Hindu nationalist parties. But we will be in no position to challenge and change the mentalities, or the habits-of-the-heart, of the millions of ordinary people that incline them to support Hindutva politics, enthusiastically (by joining the many rathayatras, pujas, yogasanas, yoga-camps and other religious-political spectacles organised by the Hindu Right) or passively (through the ballot box only). Unless we question the basis of faith critically, rationally and scientifically, we will not succeed in stemming the popular support for faith-based politics. There can be no viable secular politics in India without a secularisation of consciousness and conscience of the Indian people.

### **Globalisation and the Gods**

In the middle of all this rather dismal news, I found the time to take care of the main purpose that had brought me to India. I handed over the completed manuscript of one of my forthcoming books, *God and Globalisation in India* to my publisher.

It gives me no pleasure to report that what I saw in India this summer fully confirmed the thesis of the book I had just completed. My nephew’s freshly prayed-over car confirmed one part of my thesis which states that the new middle classes are turning out to be more religious than the middle classes of the previous



("the Nehruvian") generation. I argue in this book that contrary to the expectations of the classical secularisation theory, economic and political modernisation is leading not to greater secularisation, but to greater religionisation. This heightened religiosity is evident in the invention of new rituals, gentrification of gods/goddesses, and to a perverse kind of scientism in which Hindu meta-physics which teaches pan-psychism (i.e. consciousness is a fundamental quality of even the smallest unit of matter) and vitalism (i.e. there is a special "life-force", or "prana" that accounts of life) is being sold as if it is supported by modern science.

The emerging middle classes, I argue, are "modern" only insofar as they have become more or less savvy consumers of global brand names. These material accoutrements exist amidst the mental furniture which harkens back to a world full of disembodied *atman* or *shakti*, which either roams free, or gets "embodied" in idols.

The tragic events in Naina Devi and Amarnath confirmed the other part of my thesis which argues that a "state-temple-corporate complex" (STCC, my term) is emerging to fill the space left behind by the neo-liberal state which is retreating from its public sector obligations. In the name of promoting economic development, this STCC is openly promoting "temple tourism"; in the name of promoting "Indian culture", it is promoting Hindu symbols, rituals and practices; and in promoting "values education", it is promoting pseudo-sciences like astrology, yoga, Ayurveda and Vaastu. Globalisation is turning out to be great for the gods in India.

Take this case of pilgrimage to Naina Devi. It would be wrong to see the rush of pilgrims as an index of the "natural" religiosity of Indian people, for this religiosity has been actively fostered

by the supposedly "secular" Indian state. Just last year, the state of Himachal Pradesh where Naina Devi is located, received a grand sum of Rs. 71 million from the central government for promotion of tourism. An unspecified but a large enough chunk of it was assigned to "promote temple tourism in a big way," to quote the relevant minister of the state. Taxpayers' money was used to promote the state as the "land of gods", complete with the Puranic legends of Naina Devi as one of the Shakti-peeth temples – an idea that completely defies all reason. Such promotion of superstitions makes a complete mockery of the state's constitutional obligation to promote "scientific temper" among the citizens. Not only that, state bureaucrats on the government payroll acted as fund-raisers, advertisers and booking agents for the state's pilgrimage spots. The supposedly secular government put more of its resources in promoting a Hindu yatra than in actually preparing for the rush of pilgrims. Why are we so surprised that there was such a deadly stampede at the temple?

What happened in Amarnath is even more appalling. For years, the state governor, S K Sinha, actively and routinely participated in Hindu yagnas and darshans, bringing the prestige and the power of his office to the Vaishno Devi and Amarnath temples. In his capacity as the ex-officio head of the management trusts for these two most well-known temples/pilgrimage spots, the governor acted more as a Hindu activist than as the head of the state which is supposed to have no religion. Tax-payers' money was used not just to provide facilities for the pilgrims but to actively promote pilgrimage by organising cultural festivals including dance, drama, food and handicrafts. Why are we so surprised at the communal rift that has opened up

afresh in such a geopolitically sensitive state as Jammu and Kashmir?

### **God-Deluded Countries**

Well, after about a month in India, I came back to the United States. I happened to attend a music concert in the Hindu Temple in Middletown, Connecticut recently. There, among other notices, the list of “religious services” caught my attention. Among

priestly services for wedding and funerals, I found the following:

“Vahan Pooja: \$ 31”.

Well, why not? When Indians move from one god-deluded country to another, that is what they do.

So it goes...

Meera Nanda

*Courtesy: EPW 18 Oct 08*

## **Religion.....**

Religions have helped greatly in the development of humanity. They have laid down values and standards and have pointed out principles for the guidance of human life. But with all the good they have done, they have also tried to imprison truth in set forms and dogmas, and encouraged ceremonials and practices which soon lose all their original meaning and become mere routine. While impressing upon man the awe and mystery of the unknown that surrounds him on all sides, they have discouraged him from trying to understand not only the unknown but what might come in the way of social effort. Instead of encouraging curiosity and thought, they have preached a philosophy of submission to nature, to the established church, to the prevailing social order, and to everything that is. The belief in a supernatural agency which ordains everything has led to certain irresponsibility on the social plane, and sentimentality has taken the place of reasoned thought and inquiry. Religion, though it has undoubtedly brought comfort to innumerable human beings and stabilized society by its values, has checked the tendency to change and progress inherent in human society.

Very different is the method of religion. Concerned as it is principally with the regions beyond the reach of objective inquiry, it relies on emotion and intuition. And then it applies this method to everything in life, even to those things which are capable of intellectual inquiry and observation. Organized religion, allying itself to theology and often more concerned with its vested interests than with things of the spirit, encourages a temper which is the very opposite to that of science. It produces narrowness and intolerance, credulity and superstition, emotionalism and irrationalism. It tends to close and limit the mind of man, and to produce a temper of a dependent, un-free person.

Jawaharlal Nehru

## God is a Delusion!

Sri Sri Ravishankar.....

Can't believe you put only 2 times Sri-Sri in this scientific world believing God is managing the show!!!

*"There is no god, no god at all. He who invented god was a rogue, he who believes god is an idiot and he who preaches god is a scoundrel."*

Let me tell you there is no God in this world...it's just a business. God is only for those who trade in the name of God, others need not worry about god, because there is no god.

Tell me how many historian do believe in Ram, Sita, Geeta and all ?? No one except Hindu scholars...

If there is no God, is it necessary to invent him as claimed by all religious leaders? People say God helps them, who helps themselves. Let me ask if one can help himself then why one needs a God? Isn't it a blind belief, a hidden power which takes away all credits when one performs well and this hidden super-natural power is blamed when people fail to achieve something good?

One can easily agree nothing happens to us until and unless we deserve that. But do new born kids deserve to be handicapped.

People claim in everybody there is a 'God' or God is present everywhere. If it is so then will all people agree one God is raping another God when some crap rapes someone?

Most of the people in the world are poor, not living happily; if there is a God then why so much poverty? Does God love people's suffering?

Since so many murders take place should we agree that one God is killing/ murdering another God in the case of a murder?

This is possible only in Hindu religion, where many a times Gods have declared wars against other Gods.

Does God love people being killed at the time of volcano eruption, droughts, floods, and earthquakes or cyclones?

Where God does hide at all these tough times? When one questions about the existence of God, people try to give reference from their respective 'books'. But which God one should worship - Hindu, Muslim, Jewish or Christian? Religious leaders question atheists about the existence of world etc. without knowing the law of cause and effect.

People claim God is necessary for happy living, it gives strength to deal with day to day life but the truth is that God only leads to confusion and in the end makes people hopeless when their prayers are unheard and left unanswered.

It is true most of the God-believers are corrupt and spiteful.

Also in India in the name of God and religion so much blood is scattered in the streets.

In India in the name of God and religion one can snatch everything one wants from the gullible and ignorant people. One only needs to preach immortality!!

*Tehelka* (30th Jun, 2007) reported how different religious gurus are eating away the hard earned money of poor people:

*" As per estimates with the finance and home ministries, the total turnover of Sri Sri Ravi Shankar's empire is approximately Rs 400 crore. Turnovers of various other so called religious Gurus are:*

*Asaram Bapu (Rs 350 crore),  
Mata Amritanandamayi, "Amma" (Rs 400 crore),  
Baba Ramdev of Haridwar (Rs 400 crore),  
Sudhanshu Maharaj (Rs 300 crore),  
Murari Bapu (Rs 150 crore)."*

Membership charges of Baba Ramdev Asram :

- Ordinary membership: Rs 11,000.
- Honored membership: Rs 21,000.
- Special membership: Rs 51,000.
- Life membership: Rs 1 lakh.
- Reserved membership: Rs 2.51 lakh.
- Founder membership: Rs 5 lakh.

"This is the best nirvana and it comes for a price," says head of the Delhi centre of Osho International Meditation Resort. Outside the huge complex in Delhi that houses the International Society for Krishna Consciousness (ISKCON) temple, a large billboard says, "Become a life member "all donations accepted here." The price tag for a life membership starts at Rs 10,000.

Isn't this "God-business" profitable? No work, no taxes just enjoy bucks!!! These above mentioned names are few of those who are eating away the money of poor but there are millions other hidden in the remote parts of India those are ruining many lives in the name of fake 'God'.

Now let's see the money collected by some of the Hindu temples every year (figures must be higher as no Govt. has ever tried to collect data about this [Ref: From Book - 'Hindutva -- Samasyao ki Samasya' by Dr. L R Bali])

- |                         |            |
|-------------------------|------------|
| • Tirumala Temple       | 532 crores |
| • Ramakrishna Mission   | 152 crores |
| • Shirdi Sai Baba       | 85 crores  |
| • Pilani Devsthan Sabha | 50 crores  |
| • Vaishno Devi          | 30 crores  |

Few days back all of us have read the news of special pathways at the rate of Rs. 500 to Rs 1000 for prayers at Vaishno Devi!!

Where all this money goes nobody knows. It's a shame on our part also that mostly poor people donate money in the name of God and that money is indirectly is used against them, the poor.

Martin Luther King had said, '*Ultimate tragedy of mankind is not the brutality of the few but the silence of many.*'

It is we that remain silent on the issues that matter for us. 'Let go' nature have made us cowards and God-men succeed in creating fear and blind beliefs in the minds of people, which is tough to displace.

It is God that gives rise to misconceptions, fears and many other blind beliefs that are opposed to rational thinking - which is of utmost importance for development leading to happy life.

God is created so that a few privileged and influential people in the society can keep control over the entire society by injecting fear of God in the minds of innocent people. 'God' is created just as to confuse/misguide the society and religious hypocrites have succeeded in doing so. It's we the small bunch of people who feel for mankind, fight against exploitation of the poor that have to take the initiative. Never give up and stand up for liberty, equality, justice, and rational thinking .

A religion based on God is based on speculation. It only ends in creating superstition. God is not dead, as it never existed. Death comes to those things only which existed somewhere, sometime. God is biggest lie on earth!!

Pradeep

## Puncturing the Acupuncture Myth

By definition, “alternative” medicine is medicine that has not been scientifically proven and has not been accepted into mainstream scientific medicine. The question I keep hearing is, “But what about acupuncture? It’s been proven to work, it’s supported by lots of good research, more and more doctors are using it, and insurance companies even pay for it.” It’s time the acupuncture myth was punctured — preferably with an acupuncture needle. Almost everything you’ve heard about acupuncture is wrong.

To start with, this ancient Chinese treatment is not so ancient and may not even be Chinese! From studying the earliest documents, Chinese scholar Paul Unschuld suspects the idea may have originated with the Greek Hippocrates of Cos and later spread to China. It’s definitely not 3000 years old. The earliest Chinese medical texts, from the 3rd century BC, do not mention it. The earliest reference to “needling” is from 90 BC, but it refers to bloodletting and lancing abscesses with large needles or lancets. There is nothing in those documents to suggest anything like today’s acupuncture. We have the archaeological evidence of needles from that era — they are large; the technology for manufacturing thin steel needles appropriate for acupuncture didn’t exist until about 400 years ago.

The earliest accounts of Chinese medicine reached the West in the 13th century: they didn’t mention acupuncture at all. The first Westerner to write about acupuncture, Wilhelm Ten Rhijn, in 1680, didn’t describe acupuncture as we know it today: he didn’t mention specific points or “qi”; he spoke of large gold needles that were implanted deep into the skull or “womb” and left in place for 30 respirations.

Acupuncture was tried off and on in Europe after that. It was first tried in America in 1826 as a possible means of resuscitating drowned people. They couldn’t get it to work and “gave up in disgust.” I imagine sticking needles in soggy dead people was pretty disgusting. Through the early 20th century, no Western account of acupuncture referred to acupuncture points: needles were simply inserted near the point of pain. Qi was originally vapor arising from food, and meridians were channels or vessels. A Frenchman, Georges Soulie de Morant, was the first to use the term “meridian” and to equate qi with energy — in 1939. Auricular (ear) acupuncture was invented by a Frenchman in 1957.

The Chinese government tried to ban acupuncture several times, from 1822 to the Chinese Nationalist government in World War II. Mao revived it in the “barefoot doctor” campaign in the 1960s as a cheap way of providing care to the masses; he did not use it himself and he did not believe it worked. It was Mao’s government that coined the term “traditional Chinese medicine” or TCM.

In 1972 James Reston accompanied Nixon to China and returned to tell about his appendectomy. It was widely believed that his appendix was removed under acupuncture anesthesia. In reality, acupuncture was used only as an adjunct for pain relief the day after surgery, and the relief was probably coincident with the expected return of normal bowel motility. A widely circulated picture of a patient allegedly undergoing open heart surgery with acupuncture anesthesia was shown to be bogus. If acupuncture is used in surgery today, it is used along with conventional anesthesia and/or pre-operative meds, and it is selected only for



patients who believe in it and are likely to have a placebo response.

As acupuncture increased in popularity in the West, it declined in the East. In 1995, visiting American physicians were told only 15–20 percent of Chinese chose TCM, and it was usually used along with Western treatments after diagnosis by a Western-trained physician. Apparently some patients choose TCM because it is all they can afford: despite being a Communist country, China does not have universal health coverage.

There were originally 360 acupuncture points (based on the number of days of the year rather than on anatomy). Currently more than 2000 acupuncture points have been “discovered” leading one wag to comment that there was no skin left that was not an acupuncture point. There were either 9, 10, or 11 meridians — take your pick. Any number is as good as another, because no research has ever been able to document the existence of acupuncture points or meridians or qi.

Does acupuncture work? Which type of acupuncture? And what do you mean by “work”? There are various different Chinese systems, plus Japanese, Thai, Korean and Indian modalities, most of which have been invented over the last few decades: Whole body or limited to the scalp, hand, ear, foot, or cheek and chin; deep or superficial; with electrified needles; with dermal pad electrodes and no skin penetration.

Acupuncture works in the same manner that placebos work too. Acupuncture has been shown to “work” to relieve pain, nausea, and other subjective symptoms, but it has never been shown to alter the natural history or course of any disease. It’s mostly used for pain today, but the ancient Chinese maintained that it was not for the treatment of manifest disease, was so subtle that it should only be employed at the very beginning of a

disease process, and was only likely to work if the patient believed it would work. Now there’s a bit of ancient wisdom!

Studies have shown that acupuncture releases natural opioid pain relievers in the brain: endorphins. Veterinarians have pointed out that loading a horse into a trailer or throwing a stick for a dog also releases endorphins. Probably hitting yourself on the thumb with a hammer would release endorphins too, and it would take your mind off your headache.

Psychologists can list plenty of other things that could explain the apparent response to acupuncture. Diverting attention from original symptoms to the sensation of needling, expectation, suggestion, mutual consensus and compliance demand, causality error, classic conditioning, reciprocal conditioning, operant conditioning, operator conditioning, reinforcement, group consensus, economic and emotional investment, social and political disaffection, social rewards for believing, variable course of disease, regression to the mean — there are many ways human psychology can fool us into thinking ineffective treatments are effective. Then there’s the fact that all placebos are not equal — an elaborate system involving lying down, relaxing, and spending time with a caring authority can be expected to produce a much greater placebo effect than simply taking a sugar pill.

There are plenty of studies showing that acupuncture works for subjective symptoms like pain and nausea. But there are several things that throw serious doubt on their findings. The results are inconsistent, with some studies finding an effect and others not. The higher quality studies are less likely to find an effect. Most of the studies are done by believers in acupuncture. Many subjects would not volunteer for an acupuncture trial unless they had a bias towards

believing it might work. The acupuncture studies coming from China and other oriental countries are all positive — but then nearly everything coming out of China is positive. It's not culturally acceptable to publish negative results because researchers would lose face and their jobs.

The biggest problem with acupuncture studies is finding an adequate placebo control. You're sticking needles in people. People notice that. Double blinding is impossible: you might be able to fool patients into thinking you've used a needle when you haven't, but there's no way to blind the person doing the needling. Two kinds of controls have been used: comparing acupuncture points to non-points, and using an ingenious needle in a sheath that appears to have penetrated the skin when it hasn't. In George Ulett's research, he found that applying an electrical current to the skin of the wrist — a kind of TENS (Transcutaneous Electrical Nerve Stimulation) treatment — worked just as well as inserting needles, and one point on the wrist worked for symptoms anywhere in the body.

Guess what? It doesn't matter where you put the needle. It doesn't matter whether you use a needle at all. In the best controlled studies, only one thing mattered: whether the patients believed they were getting acupuncture. If they believed they got the real thing, they got better pain relief — whether they actually

got acupuncture or not! If they got acupuncture but believed they didn't, it didn't work. If they didn't get it but believed they did, it did work.

A 2005 study published in the Journal of the American Medical Association compared the experiences of 302 people suffering from migraines who received either acupuncture, sham acupuncture (needles inserted at non-acupuncture points), or no acupuncture. During the study, the patients kept headache diaries. Subjects were "blind" to which experimental group they were in; the evaluators also did not know whose diary they were reading. Professional acupuncturists administered both the acupuncture and sham acupuncture treatments. Interestingly, although 51 percent of the acupuncture group showed a reduction in headache days by half (compared to 15 percent in the control group), but 53 percent of the sham acupuncture group had a 50 percent reduction in headache days!

Considering the inconsistent research results, the implausibility of qi and meridians, and the many questions that remain, it's reasonable to conclude that acupuncture is nothing more than a recipe for an elaborate placebo seasoned with a soupcon of counter-irritant. You can play human pincushion if you want, and you might get a good placebo response, but there's no evidence you'll get anything more.

Harriet Hall, M.D.

A man's ethical behavior should be based effectually on sympathy, education, and social ties; no religious basis is necessary. Man would indeed be in a poor way if he had to be restrained by fear of punishment and hope of reward after death."

- Albert Einstein

## Irrationalism flourishes...

### TOWN DWELLERS APPEASE 'EVIL FORCES'

Town residents are as prone to superstition as are people of interior villages.

Residents of Shantinagar Colony (Ward No.27) of Nirmal town and sorcerers from Karimnagar performed *kshudrapujalu* (occult practices) and sacrificed goats and hens on Sunday to appease "evil forces" and bring peace, following the increased number of deaths of youth and married men over the last three years in the colony.

Although the deaths were more in families of the Vaddara community, people from all communities participated in the event in the interests of the colony. They spent nearly Rs.50,000 for the event.

Residents of the colony and sorcerers were busy preparing for the event over the last three days. During the *kshudrapujalu*, nobody from the colony was allowed to go outside and nobody was allowed into the colony on the directions of the sorcerer. Four goats were sacrificed and their blood was splashed on the four

routes of the colony. Hens were sacrificed in the centre of the colony to protect residents from evil forces and bring peace.

In another instance, villagers of Manjulapur of Nirmal mandal performed *kshudrapujalu* and sacrificed goats and hens in the late hours of Monday to appease evil forces, following the deaths of cattle in their villages.

Such incidents have also occurred in Kuntla, Dilawarpur, Laxmanchanda and Mamada mandal in Nirmal division in the past, where villagers deserted villages.

Residents said that nearly 20 persons, most of them youth and newly married persons, died in suspicious circumstances and flu-like incidents over the last three years. A sorcerer, Devatha Rajanna, 50, of Vempeta of Karimnagar said that they had agreed to perform *kshudrapujalu* to save the residents from evil forces. He said that there was nothing wrong in performing such *pujas* when people strongly believed superstitions even in these modern times.

*Deccan Chronicle, 25th October 2005*

### 'VISA' TEMPLES BECOMING A RAGE IN AP

In a state where seeking to migrate abroad is fast becoming an obsession, is it surprising to find "Visa temples"? A second visa temple has recently come up in Andhra Pradesh in an obscure village, 45 km from Nizamabad town in backward Telangana.

Hundreds of visa seekers are thronging a dead 100-year old banyan tree in Mupkal village, after the successful ones spread word about its power. Most of them visiting are skilled labourers like motor mechanics keen on getting a job in

Arab countries. They come and tie a coconut wrapped in a red or white cloth and promise to keep a vow.

This is the second visa boom granting temple, the first one being the "Visa God" at Chilkur Balaji temple in Himayatsagar on the outskirts of Hyderabad. Thousands come to worship here and have been doing for some years. This dead banyan tree in Nizamabad which has now been converted into a makeshift temple is getting hundreds of devotees from various parts of the district, since June 24 this year.

The local priest at the makeshift temple, N. Nagalingam, told *The Times of India* that the list of pilgrims has been on the rise ever since eight persons who worshipped at the place got a visa to go to West Asia last month. "It's a mela here every day. Several petty vendors have set up shop in the vicinity to cater to the hundreds of devotees who come here with a wish list, most of them on Mondays and Saturdays", says Nagalingam.

Locals said that the tree more than 100 years old, began dying and almost got uprooted on January 28 due to a hailstorm. After the incident, villagers decided to cut down the tree as it posed a threat to residents in the vicinity. A major portion of the tree was cut with only a huge trunk extending to about 15 feet remaining in the place.

*The Times of India, Bangalore, 2005*

### POLICE TO BATTLE 'BHANAMATI' DEATHS

The sudden spurt in killing of people in the name of practising *bhanamati* (witchcraft) in Telangana districts has spurred the police to join hands with non-governmental organizations (NGOs) to campaign against the inhuman act. The year saw 54 persons being killed on charge of practising witchcraft. In the last fortnight, five persons were battered, lynched and set ablaze for allegedly practising black magic. Be it Mudireddipalli (Mahabubnagar), Mandapuram (Nalgonda), Narsapur (Medak) or Nizamabad district, suspected persons were tortured and brutally killed.

Those practising sorcery were mercilessly killed for ills plaguing the families or the entire village. Shocked by the daylight murder of a Dalit woman on the charge of performing black magic in Nampally mandal on Tuesday, the Nalgonda police decided to launch a joint campaign against *bhanamati* with an NGO, Jana Vignana Vedika (JVV). Asserting that

the police would not allow such incidents, SP M M Bhagwat warned perpetrators that they would not be spared.

Land disputes, family squabbles, rivalry between two groups were also shown as reasons for persons getting killed in the name of witchcraft, he noted. In many of these cases, irate mobs plucked the teeth of victims in the belief that it would disable them from chanting hymns to invoke evil spirits.

JVV general secretary T.V. Rao said massive awareness campaign would be launched in all the nine Telangana districts with the support of police, Government machinery and political parties. The JVV has decided to write to all SPs in Telangana and political parties to extend support to their cause wherein scientists and magicians would be roped in.

*The Hindu, Hyderabad, 14th October 2005*

### POLITICIANS IN TROUBLE SEEK TANTRIK HELP

Seven pundits in Varanasi and Mathura are performing a special *anushtan* (ritual) that will continue round-the-clock for seven days at the Vishwanath temple.

At the end of the *anushtan*, an elaborate *rudra abhishek* will take place and that, everyone hopes, will put an end to all

the troubles that are presently plaguing UP chief minister Mulayam Singh Yadav.

BJP leader Rajnath Singh's supporters last month offered a special *puja* at the Shakumbhari Devi temple in Saharanpur as soon as his name began doing the rounds for the BJP president's post. The prayers were promptly answered

and Mr Singh became party chief. His supporters are now preparing for *shringar* as a thanksgiving gesture.

Samajwadi MP Amar Singh's supporters, on the other hand, are also planning a *maha mrityunjaya jaap* to help their leader overcome his present crop of problems, including those of the telephone tapping. Trouble, they say, takes you closer to God and this, perhaps, holds truer for politicians than for ordinary mortals.

When trouble knocks—and it seems to be doing so rather regularly these days—our *netas* rush to temples, order elaborate *pujas* and adorn (the temple with) precious gems. Their priests, too, revel in the political attention that is lavished on them and happily publicise the 'help' that they have extended to these *netas*—albeit, on condition of 'secrecy'. Almost every Uttar Pradesh politician, including those who belong to the secular variety, are known to hold secret *pujas* and elaborate rituals to ensure their political well-being. Some even believe in rituals that are designed to 'harm' their rivals but these are often conducted in utmost secrecy.

A leading priest of Varanasi who has performed *pujas* for the leading politicians at one time or the other, says rather candidly, "We are busy round the year because one astrologer or the other prescribes *pujas* for the leaders which we are asked to perform. In most cases, the leaders send their supporters with a request for the *puja* and also express their inability to remain present during the *puja* because they do not wish to be seen praying in public. We usually keep a photo of the leader and perform the *puja*. Moreover, it does not make a difference to us as long as we get our *dakshina*."

A priest in Mathura discloses that a special *anushtan* is currently underway in Vrindavan for Mr Mulayam Singh Yadav. "The *anushtan* began on Makar Sankranti and will continue for seven days. Mr Yadav is passing through a bad phase and his stars

will give him a tough time in court cases. The *anushtan*, which is costing Rs.51,000, will give him some relief and it is one of his ministers who is organizing it," says a local priest.

The *dakshina*, incidentally, often extends beyond the temple, and priests who perform *pujas* for politicians end up getting huge favours from their "clients".

A *tantrik* in Lucknow was gifted a plot and a car by a former chief minister when he helped the former during a political crisis. A priest in Mathura recently got his two brothers a government job after he performed *puja* for an influential minister. Other priests in Varanasi and Kanpur have earned lucrative building contracts for their kin after they came into contact with their political clients.

While Mr Yadav's supporters are heading for temple towns like Varanasi and Mathura, former chief minister Kalyan Singh's faith in the Vindhyavasini temple in Mirzapur is well-known.

Though Mr Kalyan Singh, as UP chief minister in 1991, had declared that he had a direct 'hotline' with Lord Ram, and could communicate with Him whenever he wanted, his loyalties now seem to have shifted to Vindhyavasini Devi. Mr Singh, along with his close associate, Ms Kusum Rai, is a regular visitor to the Vindhyavasini temple and participates in elaborate rituals at the temple whenever he faces political trouble—which is rather often these days. During Navratri, the former chief minister makes it a point to visit the Vindhyavasini temple and the local priests happily relate tales of the VIP's faith in the goddess.

Another senior BJP leader who is known for his faith in the Almighty is Mr Kalraj Misra who makes a beeline for Varanasi at regular intervals and is known to participate in *rudra abhishek* at the Vishwanath temple.

Ms. Uma Bharti, like most of the other BJP leaders, makes it a point to visit the makeshift Ram Lalla temple in Ayodhya



whenever she is touring UP. This not only gives her an opportunity to reiterate her commitment to building a Ram temple but also allows local BJP activists to chant the time-tested 'Jai Shri Ram' slogan.

However, ever since Ayodhya, in general, and the Ram temple in particular, acquired political significance, most of the secular leaders, including those from the Congress and the Samajwadi Party', have

shied away from the temple town. As a veteran Congress leader says, "Visiting Ayodhya has become almost synonymous with supporting the construction of the Ram temple. Though I used to visit Hanuman Garhi in Ayodhya regularly with my family till about a decade ago, I have stopped going there now."

*Deccan Chronicle, 24th January 2006*

### BIG B KEEPS HIS PROMISE

Living up to his promise, Bollywood star Amitabh Bachchan, sent a jewellery experts' team from Mumbai for taking measurements of 'Kati Abhaya Hastams' of the presiding deity at the Tirumala temple.

According to temple officials the team, whose identity has not been revealed, reached here on Sunday and secured the measurements the same evening.

It may be recalled that Big B, who came on a thanksgiving visit during the last

week of December after surviving a major surgery, had promised the temple authorities to donate Rs.8 crores for manufacturing twin diamond-studded gold *hastams*.

But, according to highly placed sources, the *hastams* are expected to cost Rs.12 crores though initial estimates had put the cost at Rs.8 crores.

*The Hindu, Hyderabad, 17th January 2006*

### MOCK FUNERAL TO DRIVE AWAY BAD LUCK?

In a bizarre incident, a family performed the funeral rites for their three children, who are alive, because of superstition. A crow had struck them while they were playing in Ramreddypalli village of Mustabad Mandal on Sunday and this was considered a bad omen.

Reports said the children Anitha (10), Saikumar (8) and Shivkumar (2), were playing with chicks in front of their house, when a crow trying to pick up a chick,

struck against them. The parents, who were watching, immediately instructed the children to sleep like dead persons and informed their relatives that the children had drowned in a well.

Relatives from far-flung places including Hyderabad thronged the village and wailed in sorrow. Later, the parents told them the real story.

*The Hindu, 17th January 2006*

### "RUHANIYAT IS LIKE FIRE"

A family was driving towards NOIDA when their son wanted to take a leak. He got out of the car, turned away from the road, faced the Yamuna and relieved himself- A few minutes later, he fell ill and started behaving abnormally. His horrified family tried everything they could;

finally they took him to Syed Mansoor Nizami, alias Pir Haji Kashani Baba, in Nizamuddin, who instantly divined that a spirit had possessed the boy.

The Baba sat the boy down before him and addressed the spirit. "O Spirit, why did you enter the body of this boy?"

When a spirit enters a person, it is the spirit who speaks, and this one said the boy had urinated upon it on the banks of the Yamuna.

"It is perfectly understandable", said the Baba. "Anyone you pee on would be angry at you."

Pir Haji Kashani Baba then proceeded to exorcise the spirit with the help of a broom made of peacock feathers. The boy was soon restored to his senses.

This, at least, is the Baba's version of events. He has been exorcising spirits for decades and, according to him, the most common reason why they possess human beings is the scent of perfume or the flowers that women wear.

"When women go on family picnics to India Gate, they don't realize that the trees in a place like that are at least 200 years old", he says, "Evil spirits hang from the branches of old trees and are attracted by perfume."

Committing suicide amounts to deciding one's fate and not letting Allah do so, he says, and thus the spirits of those who kill themselves never reach either heaven or hell, and are condemned to linger on earth forever. These are the evil spirits, the *shaitani atma*, that possess people.

Pir Haji Kashani Baba can change your business fortunes, get you married, prevent your divorce, make you conceive (and grant you a boy at that), save your children from the evil eye, help them perform better in school, and bless them for life. And exorcise spirits. He can do this because he has what most of us don't—the power of *ruhaniyat*. "*Ruhaniyat* is the power of Allah," he says, "it comes from the will of Allah. Allah's wish is that you follow him, perform *namaz* regularly, read the Quran Sharief. If your karma is good, Allah may bless you with *ruhaniyat*."

Once acquired, though, *ruhaniyat* is like a ball of fire. If not used carefully, it can ruin its owner. "*Ruhaniyat* is to be felt,

*ruhaniyat* is *aatishi*, *ruhaniyat* is the power of Allah. Should Allah want, he can turn day into night and night into day."

"I am more like a doctor or engineer, you know, who uses specialized knowledge," he says, adding, however, that he doesn't have much respect for scientists. "They don't believe in Allah."

There are many Sufis in Nizamuddin who claim to have such powers and who distribute amulets and pray for you. But Pir Haji Kashani Baba is different for, unlike many others, he has a two-story establishment all to himself. Its hoardings apart, it looks rather ordinary, much like any of the other shops cramping the mausoleum of Hazrat Khwaja Nizamuddin Auliya, the famous 12th century Sufi saint. The Baba's shop, like his visiting card, advertises: "Spiritual Treatment for the solution of any kind of problem, Business and Marriage Purpose, Effect of Bad Air, *Jadu Tona*". He also has a website which is currently down, because he's planning renovations with more extensive information about *ruhaniyat*. Requests are received by post or e-mail, but he prefers most to be faxed. A letter lying near him lists the names of all the members of a joint family that is consulting him, with flow chart-like lines indicating who is doing *jadu tona* on whom. Since his fame spread across the world, all sorts of people write to him: white, black and brown. A request from the Netherlands includes a family photograph. "This is my family," it says on the back. "Help me save it." The divorce successfully prevented, the entire family flew down to Delhi to pay obeisance at the Nizamuddin Dargah.

For all his emphasis on following the path of Allah, the Baba is quick to say that all religions are equal. "I serve humanity, not religion." The people who come to him are largely Hindu and Sikh; when people's miseries are not alleviated by their own religions, they step away from them and into the plural domain of the Sufi tradition.

Those complaining from 'Effect of Bad Air' or *Jadu Tona* may also be suffering from mental disorders.

On the ground floor at the Baba's is the waiting area. Remove your shoes outside and wait. If there is no attendant, a seemingly disembodied voice will command you to come upstairs. You obey and enter a plush, air-conditioned room; you may not notice the CCTV camera with which the Baba anticipates his visitors or the microphone over which he announces whose turn is next. There are several phones, mobiles, a fax machine, and if you don't drink tea, there's always Pepsi. But the traditions of centuries are in no conflict with modernity: "The outward appearance is immaterial. *Ruhaniyat* is in the heart and the mind."

A prominent signboard in the Baba's office says, "Ask only one question in one time." He clarifies that once people have requested him to solve the problem they came with, they start asking solutions for irrelevant matters like stomach aches or servants who have run away."

So how much does he charge? He points to the donation box. "I don't need people or their money. They need me," he says grandly. "Fakirs are the *shehenshahs* of Time."

The one thing *ruhaniyat* can't do is stop wars "because they happen of Allah's will. They happen because man has been running after the *shaitaan*." The one thing he won't use *ruhaniyat* for is winning you an election. "A politician himself once told me that a politician is born after 100 politicians die." It was to keep away from politics that

he refused to participate in peace processions in the aftermath of the Babri Masjid demolition. And he says he won't entertain requests to use *ruhaniyat* to hurt another person.

Often you may not find him in his Nizamuddin office, for he travels the world over. People send him air tickets and sponsor his stay. All he does is use the power of *ruhaniyat* to fulfil their wishes. Lest you think this claim is a lie, he shows you his passport, five old ones stuck together. In the last month-and-a-half, he's visited 11 countries. Don't his followers in Delhi suffer when he is away? "What to do, Allah takes me all over the world." This includes his office in Texas, a photograph of which adorns his booklet about the Nizamuddin tradition and his place in it.

He draws his lineage from Hazrat Nizamuddin Auliya's sister, and he is also the president of the Chishtia Nizamia Mission, which takes care of the shrine and spreads the saint's message to the world.

The Baba is the 31st in his line and his interest in *ruhaniyat* was sparked when, at age 10, he saw his father save a man's life by blessing him. Fir Haji Kashani Baba's two elder sons, however, run a CD manufacturing business, and his third is training to be a software engineer. Doesn't he feel sad that the tradition of *ruhaniyat* in his family could come to an end? "Why? Just as people come to Hazrat Nizamuddin's dargah with their wishes, so they will come to mine."

*Tehelka*, 24th February 2007

(These excerpts were taken from the book "ANGELS, DEVIL AND SCIENCE - A collection of articles on scientific temper" by Pushpa M Bhargava and Chandana Chakrabarti)

## PASSING THE MIND'S BORDER

In India there has been a long tradition which believes that we are all puppets; God is the puppeteer. He pulls strings – we dance, we sing, we rejoice, we weep, we cry, we are miserable, we are happy. Everything is in his hands. But, as a hardcore Atheist, I am against the whole idea, because if there is a puppeteer then man does not exist; then man has no freedom, only a façade. The God conspiracy exposes the history-old conspiracy of the politician and the priest against joy, pleasure, comfort and luxury. The politicians would touch the feet of the priest, and the priest enforced a certain kind of society on people – all in the name of god. Religions condemn life and teach salvations through impossible ideals. This creates inner conflict, and guilt.

All the religions have been imposing the idea that everything is in the hands of god and this idea prevented man from doing anything to life to make it better and beautiful. When someone else is looking after the world, then what can we do? What can our contribution be? This idea is one of the most basic causes of the whole anguish in which humanity is passing and perhaps may perish in. Just think... the way we, Atheists see it. Don't throw this responsibility to anyone else. It is we who are in every way responsible to make the opportunity. Remove God, and put man in his place, and you will have a totally different world. All the religions have been teaching you to shrink your responsibility.

Religions promote war, poverty and persecution. They are supported by the vested interests to exploit you. They

exert control through false morality based on lies. Once people have been indoctrinated into their particular brand of religious conditioning, they are ready to die for it – and even more, ready to kill. What would happen if there were no more organized religions? Religions have destroyed man's integrity. The Gods that are sitting in the temples are just manufactured by man. It is very strange that these religions go on saying that God created the world, but their gods are created by men. During the youthful period of mankind's spiritual revolution human fantasy created gods in man's own image, who by the operations of their will were supposed to determine, or at any rate to influence, the phenomenal world. That's why a Chinese God will be different from a Hindu God; an African God will be different from a European God. And the stupidity reaches to its extreme: You create those images and then you kneel down before them. Fact is that man sought to alter the disposition of these gods in his own favor by means of magic and prayer. According to religion God is the absolute truth. It proves that the writer is not very intelligent one, he is not a deep thinker, and he is dogmatic and fanatical. Bertrand Russell has written somewhere that he has never seen an intelligent person speaking in absolute terms. Those who are intelligent will definitely hesitate to assert themselves in this way. Russell is trying to say that only the ignorant can claim anything to be the absolute truth. As knowledge increases, such absolute announcements cannot be made. In this age, if anyone tries to assert that one particular tradition is the only right one, he will harm that tradition very much. In any

view, religion of future, the one which will influence people, the one which will be followed and respected by people, with reasons. In one of his great insights, Bertrand Russell has said, "If the whole world becomes happy, I can guarantee there will be no religions any more." Here, Atheists are the right minded, creative intellectual workers who are proof against the emotional temptations of the people. It can easily be seen that all the valuable achievements, material and moral, which we receive from society have been brought about in the course of countless generations by such creative individuals -- someone once discovered the use of fire, someone the cultivation of edible plants and someone the steam engine.

Now, I would like to ask you a million dollar question. What can guide us -- Science or Religion? In religion, be it Hinduism, Islam or Christianity, certain beliefs or ideals have been handed down from the past and these are considered sacrosanct, i.e. these can not be violated or altered. On the other hand, science depends on actual observations and the conclusions drawn from these observations which may change from time to time depending on the accuracy of the observations obtained by newly developed instruments, methods or ideas developed in related areas. The most prominent example of such observation is the 'Theory of Gravitation' observed by Sir Isaac Newton who saw an apple falling from an apple tree -- many of us would have been content by picking up the apple and judging its quality by eating it. Newton on the other hand started thinking over it. Why did it fall? How did it fall? Why did it go to some distance? So on and so forth.

Great thinkers and observers starting from Archimedes and great scientists like Galileo did not accept facts as obviously presented without going to their core. Those who are great scientists do not rest satisfied with the existing ideas. They believe that further development of science will bring out more changes. People should be willing to modify their views in the light of new observations. But, in religion, those things which have been handed down by our elders are accepted implicitly and the believers do not question it. Dharma generally translated as religion is enunciated in our ancient beliefs as *yat dharayate tat dharmam* -- whatever that maintains or holds is dharma. The knowledge that has evolved from these ancient beliefs that sustains or holds us is nothing but a man centric and more updated version -- i.e. atheism.

Each individual has to inquire into himself -- the truth, the reality. Religion can not help. Its interest is not that people should become spiritual giants. Its effort is that people should remain retarded so that they can be sent into religious wars, crusades, jihads, killings each other -- and they are all killing each other for religious reasons. We don't require religion because it loves killing, fighting and conquering lands. God is a being from whose care one hopes to benefit and whose punishment one fears; a sublimation of a feeling similar to that of a child of its father, a being to whom one stands, so to speak, in a personal relation, however deeply it may be tinged with awe. "Hands that help are better than lips that pray", said the eminent atheist philosopher Robbert G. Ingersoll. But most of us tend to think otherwise. There is nothing divine about morality; it is a purely human affair.



It was widely held that there was irreconcilable conflict between knowledge and belief. The opinion prevailed among advanced minds that it was time that belief should be replaced increasingly by knowledge; belief that did not itself rest on knowledge was superstition, and such had to be opposed. Superstitions are the major reasons for defects and indignities in our society today. Rituals that we follow in our religion are full of unscientific beliefs, for the benefits of the clergies.

Here, I would like to narrate the version of Prof. B. Ramachandra, (the messiah of love – Secretary, AMOFOI WORLD) an atheist and reformer. How different the world would have been if all its citizens are complete atheists both in thoughts and actions? Yes, we would have a different world – different in many respects from the present scenarios. No God, No Religion. No Caste. No Sub-caste. No caste fights, no caste politics.

We should stand firmly on scientific discovery and principles. If things cannot be explained by resorting to known principle of science (this does not however include personal opinions of the so-called scientists) then we would look at that with suspicion. We oppose all miracles performed by known god men or women and others. All magic's/miracles are just a trick, a sleight of hand or use of simple physical, chemical, biological and psychological principles to cheat those who have suspended their reasoning mind.

There is an old saying 'to know the truth we have to ask questions'. And to ask questions means to challenge, contradict and discuss it. By that we achieve clarity and precision. Hence, discussions, arguments, counter arguments – all these are necessary to

arrive at the truth. What stands to reason is Rational. We should adopt rationalistic approach in our every endeavor. We should be a hardcore Atheist and a hardcore Atheist is a person whose fundamentalists' can't quell his/her spirit. Various Governments can't govern his/her mind. Controversies may court him/her as much as fatwas. But, still Atheism holds a different meaning for him/her. His/her face must be like a ready-made sticker saying "BEWARE OF DOGMAS". He/she must be characteristically free and frank.

Atheism, for me is a state where no religion, but scientific temper and humanism exists. I believe to be an individual. I am myself, and my life is my life, and I am going to live it in my way within the constitutional laws. I am not here to live according to others, and I won't allow anybody to dictate to me how I should live, what I should do. I will live according to my humanistic values whatsoever the cost, even if I go astray. I don't believe in God. I don't subscribe to this thought at all. I don't need a god to bail me out when I'm in trouble. I rely on my inner strength. Do you think a man with enormous will power really needs a stranger (god) for his protection? Regarding, the various portraits of God and Goddess, I would like to say that to me, it's only a piece of art and not anything more than that. Further, I am humbly arrogant to say, "Show me God, let him fulfill all my desires and solve all my earthly problems and then only I will believe you".

An Atheist should start with the basic tenets, which are:

- He/she must respect everybody's right to a life with dignity.

- He/she must promote scientific temper, humanism, spirit of inquiry and reform as mentioned in our article 51 A (h) of our Constitution.
- He/she must oppose all steps that discriminate against human beings and debar them from enjoying the fruits of democracy like liberty, equality and fraternity.
- Every rationalist must be a supporter of freedom of thought and expression.

This brings us to the famous statement of Voltaire, “Even though I do not agree with a single word of what you say, I will die for your right to say so.”

### **Popularization of Science : A Need**

Every act of our's and nature's has a scientific explanation. In India, people know a lot of things but do not know the scientific explanations behind them. For example, pickle makers add lots of salt to pickle making medium, but they themselves do not know why they do it. The simple reason that adding of excess salt makes the medium hypertonic and causes ex-osmosis in bacteria thereby ruining the pickles is not known to them or most people. Until and unless science is popularized fully people will believe in superstitions. These superstitions destroy people. They contain no logic at all. Still so many people believe it. Popularization of science is a basic requirement for a country's development. It should go on and never be stopped.

Scientific knowledge here does not mean how much quantity of science facts are known to an individual, but it essentially includes thinking 'critically' and 'creatively' and in essence rejecting what is mere superstition and blind belief. In a way it is striving towards

'enlightened belief' and an open mind. Benefits of scientific and technological knowledge have reached almost every nook and corner of India, and have impacted everyone's life in one way or the other, but the requisite scientific awareness to think logically, rationally and objectively has not been created as yet. One can easily come across hundreds of examples in our daily lives where people worship articles of technology. Drivers can be seen touching engines reverentially but at the same time they may not mind driving after enjoying a few pegs of alcohol.

Superstitions are still rampant in our society. People are killed for witch craft, suspected witches are pelted to death, animal sacrifices, and even children are sacrificed. Health related issues like pulse polio drive, other vaccination drives, AIDS awareness, anti-tobacco campaign etc. are not getting the quantum of success they are expected to. Similar is the situation with natural resources conservation, environmental protection, cleanliness related issues etc. In all the above cases though there is no dearth of funds or government initiatives, the weakest link so far has been lack of mass awareness and public participation. Very recently, I saw a reputed news channel reporting fractures on the earth surface in same areas. They are common features formed by earth subsidence. Instead of going into the reasons, the channel showed the opinion of babas that started talking of pralay (doomsday) etc. Similarly, in another case I found an astrologer on a reputed TV channel showing the schematic diagram of the solar system, claiming that the traditional astrologers had prepared this and modern science has stolen it from there. We need a real aggressive campaign to popularize science and scientific

temperament especially for a nation reeling under poverty and other survival related issues. In fact, such efforts need revamping and re-look so that these become a mass movement and cover the vast spectrum of our one billion plus population. I do not think that we have any other option except to accelerate these efforts.

The tragedy is that when 21<sup>st</sup> century demands a higher level of commitment to humanity, democracy, self-respect of the individual and the development of scientific temper, a large majority is allowed to be hoodwinked into superstitious, baseless and fake claims of super natural powers to cure, give solace and prevent bad things from happening in future! It is the time, Atheists/Rationalists make their presence felt and expose the frauds and betrayers of the nation as they are weakening the very resolve of a nation to have self-respect, self-confidence and use scientific approach to create new things to march ahead; what Periyar and GORA did 35 years back and what Mr. Veermani and Mr. Lavanam, Mr.

Vijayam, Mr Sammaram are doing now. We have miles to go but the reason that everybody is endowed with 'must be helped attitude' to rise from the ashes of ignorance and make its presence of conscience felt.

### Conclusions

As an atheist our stand is above all unifying. We want to abolish all divisions among people on whatever grounds, whether of religion, race, color, caste, gender or sexual orientation. We stress all the time that what binds us together, common humanity is far stronger than what divides us.

Adopt science in all walks of life. Science means not the machines, instrument or the equations. Science means reasoning, experimentations, questioning and analyses. I would conclude with a message that "Let's create universal brotherhood, and promote scientific temper, humanism and spirit of inquiry and reform as mentioned in our Article 51 (a) h of our Constitution."

Jai Bigyan, Jai Insaan!

**Nihar Ranjan Acharya**

Founder/Director, TRUST

***The deprived poor people of the 'Bahujan Samaj' turn to the 'Babas' to get relief from their poverty and the accompanying difficulties. The well-to-do educated middle class go to the 'Maharaj', who preach 'live and let live' policy. And the highly educated higher middle class go to 'Acharya' in search of 'the art of living'. All these three institutions-Baba, Maharaj and Acharya- are individual centred. They start with the dictum-if the individual changes, the society will change. Next they preach the audience to uplift their own selves and progress. Finally they ask them to leave all the problems of their lives to the Adhyatmic powers of the god man and surrender to him. The audience is convinced that their beatitude lies in the total surrender to the god man. This whole process gradually de-socialises the individual.***

## HAUNTED HOUSES AND GHOST SIGHTING

Most scientists dismiss the vast majority of ghost sightings as hoaxes. But researchers in Canada, England and elsewhere are exploring what happens in the brain to create the illusion that something is "haunted." So far, they have found evidence that some apparitions may be brain benders caused by spiking EMFs (electromagnetic fields), and possibly even extremely low-frequency sound waves (known as infrasound) so subtle that the ear does not register them as noise.

EMFs emitted by power lines and towers, clock radios and other electrical sources may help debunk myths that people or things are haunted, says Michael Persinger, a neuroscientist at Laurentian University in Sudbury, Ontario, Canada, who has conducted research on the topic. One such study, published in 2001 in *Perceptual And Motor Skills* chronicles the experiences of a teenager who in 1996 claimed to be receiving nocturnal visits—one sexual—from the Holy Spirit. The 17-year-old girl, who had sustained mild brain damage at birth, said she also felt the presence of an invisible baby perched on her left shoulder.

When Persinger and his colleagues investigated (at the behest of the girl's mother), they found an electric clock next to the bed that was about 10 inches (25.4 centimeters) from where she placed her head when she slept. Tests showed that the clock generated electromagnetic pulses with waveforms similar to those found to trigger epileptic seizures in rats and humans. When the clock was removed, the visions stopped.

Persinger determined that the clock, in combination with the girl's brain injury, were highly likely to have been contributing factors to the perceived nocturnal visits.

Although Persinger believes this case and others to offer compelling evidence that EMFs contribute to a person's perception that something is haunted, experiments intended to prove this theory leave room for doubt.

Christopher French, a psychologist at Goldsmiths, University of London College in London who studies the paranormal, is one researcher who has conducted experiments to test the EMF theory but has been unable to prove its validity. He and colleagues four years ago built a "haunted" room in a London apartment rigged with electromagnetic sources and infrasound generators. They invited 79 volunteers, recruited via the Internet, to spend some time inside the cool, dimly lit space.

Researchers disclosed to the subjects that they might experience some weirdness—feel a presence, tingling or other strange sensation—while in the room and were given psychological evaluations to assess their susceptibility to the suggestion of the paranormal. This included the Australian Sheep-Goat Scale, which tries to separate likely believers (sheep) from skeptics (goats). Examples of items on the scale include questions about belief in life after death and whether a subject has ever experienced an episode of precognition.

The researchers used a computer to drive twin coils, hidden behind the walls

of the room, that generated EMF pulses up to 50 microteslas (a unit for measuring the strength of a magnetic field) of electromagnetic pulses, many times greater than the one1- to -four4 microteslas generated by Persinger's clock. They also used a computer to pump in extremely low—frequency infrasound waves that were well below what humans could possibly hear. Such sounds have been linked, albeit tenuously, to some alleged hauntings. In a 1998 *Journal of the Society for Psychical Research* article entitled, "The Ghost in the Machine," Coventry University (U.K.in England) researchers Vic Tandy and Tony Lawrence describe an experiment during which they detected an infrasound wave with a frequency of 18.9 hertz in a factory where workers had reported strange experiences they believed to be paranormal (French and his team used waveforms of 18.9 and 22.3 hertz.).

French's volunteers were exposed to electromagnetic pulses, infrasound, both or neither. "Most people reported at least some slightly odd sensation, such as a presence or feeling dizzy, and some reported terror, which we hadn't expected," French says. "Terror is obviously quite an extreme reaction, and we only anticipated getting reports of mildly anomalous sensations in the context of this particular experiment." Still, French and his colleagues could not conclude that EMFs played a role in conjuring these feelings.

Like any dutiful researcher, French—who became interested in paranormal psychology after reading the 1981 book *Parapsychology: Science or Magic?*, by the renowned doubter and British psychologist James E. Alcock—has gone into the field, visiting purportedly haunted houses, which are in ample

supply in England. He says believers "psych each other up. Sitting in pitch darkness you hear noises, which are common in these old houses, but believers see and hear things that just aren't there, according to our recording devices."

French's findings were published in the in the journal *Cortex* this month, and he and his colleagues have been trying to garner funding for a follow-up study. It will not be easy—poking holes in ghost stories might appear on its face to be of little scientific value. Still, French insists such research can reveal important truths about the human mind, including questions of memory and delusions. "Within psychology, people talk about reality monitoring, trying to understand how we make distinctions between mental events and events that take place out there in the real world," he says. "It's something we take for granted: Did you really lock the door before you went to bed, or did you just think about it?" On the extreme is schizophrenia, in which the brain makes no distinction between the real and the imagined.

"There's a continuum, and this kind of framework is useful when you're talking about hallucinatory experiences," French says. "People are mistaking their attribution, feeling a product of their own mental processes as something that's taking place in the real world. Anything that can lead to making your mental events more similar to events that take place—a vivid imagination, for example—will make it more difficult to distinguish between the two."

Of course, believers say French cannot see or hear ghosts because he is a "horrible skeptic," which he readily admits. "I wish it was a bit more spooky,"



he says of his time waiting for apparitions to appear in dank, musty castles. "I'm sitting in the dark, in the cold. I wish something more would happen."

Persinger commends French's team on its "splendid experiment," even if it didn't validate his ideas. Still, he contends, EMFs do affect the body in many ways—from the brain to individual cells,

to enzymes, and even DNA. The key to testing their effects on brain activity, he says, is to make sure that the fields are neither too strong nor too weak, and that they come in the right pattern. So he is not willing to give up on finding a way to prove scientifically that EMFs are behind at least some ghost sightings. "I'm a scientist," Persinger says. "I don't believe in anything."

courtesy ***ECONOMIST***

### **Why are superstitions a part of public life in India?**

The modern mechanisms for risk-management or “disciplines” ranging from statistics to modern medicine exist side-by-side with superstitions in the country. The answer to why these disciplines have not penetrated into the pores of Indian society lies in the history of political power in India.

The moral-political question is: should superstition be a part of public life? Our private superstitions cause no public anguish. Often, for example, when flying, I steal a glance at the monthly predictions does not quite go with my image of myself. But then I comfort myself with the thought that the horoscopes are there, not just for myself, a “superstitious Indian”, but for the average airlines passenger. Market research must have shown that people feel curious about their own future, that this will make them look at the magazine. (This fact may have even been a factor in determining the advertising rates charged by the publication.) This is superstition as my “private” indulgence in my own hopes and fears. Unless your vision of a desirable society is one made up of hyper-rational atheists, there is no problem with private superstition.

## HOLY GARB: PROFANE AGENDA

What do spiritual leaders talk when they meet? One thought it may be the matters pertaining to the 'other world' that is the focus of their attention, away from the profane World, which is the matter of concern for ordinary people. One thought they may be deliberating on the issues of moral values of the religion. But it seems that is not the case. Recently when many of them met in Mumbai they showed that the saffron garb is the mere exterior, this color of renunciation and piety, is no representative of their political core. On the top of that they use saffron color to hide their sectarian ideas and narrow politics in the name of religion. The only difference in their case being that their politics is couched in the language of religion. That their ideas are full 'Hate' for others, unlike the values Hinduism which teaches us Vasudhaiva Kutumbkam (whole World is my family). This got revealed once more.

Recently many a chiefs of Akharas and other assorted Saints came together at the First Conference of Dharma Raksha Manch (29th Jan 2009) in Mumbai. They were brought together by Vishwa Hindu Parishad, apparently for the agenda was Combating terrorism. They called for dropping the word secular from Indian constitution and replacing it with word religious. They Ram Temple, Malegaon blasts, terrorism, and amongst other things and demanded that they need Manu's parliament and not Christ's. They drew attention to terrorism breeding in Madrassa, and hit out at media for using the term Hindu terrorism. Finally Beginning Mid Feb. (2009) they plan to take out series of yatras (religious marches) covering large

parts of the country, with the call for ending Jihad.

Who are these assorted Holy seers, coming together on the call of Vishwa Hindu Parishad? VHP itself is the creation of RSS in the mid sixties. Initiative was taken by RSS chief and his close lieutenant to get different established mutt's to form VHP. It primarily became a religious wing of RSS, involving the Hindu acharyas etc, and attracted especially traders, affluent processions and those who did not want to openly associate with RSS, as at that time RSS stood fully discredited in people's eyes due to its association with Nathuram Godse, who killed Mahatma Gandhi.

VHP got involved in the identity issues strengthening the conservative politics and Ram temple became its central rallying point. Along with this it called for Dharma Sansad (religious parliament) where they stated that in the matters religious, in this case Ram Temple, the decision of saints is above the judgement of the courts. Place of Lord's birth became a matter not of History but of faith, and who else can decide these issues than these custodians of faith.

This congregation of holy seers has taken place long after their earlier meetings around Ram Temple issue. It seems it is their next innings where the focus is also on terrorism apart from its earlier concerns. At the same time they are reiterating that Indian Constitution is not welcome; let's go back to Manu Smriti. In a way there is nothing new in this. The RSS politics has always been against the Indian Constitution, against

the values of secularism, democracy as these stand by Liberty, Equality and Fraternity. Right from the time Constituent Assembly was formed, RSS opposed the same, saying that 'we' already have the best of Constitutions in the form of Manu Smriti so why a new Constitution. It was backed by eulogies for Lord Manu by the RSS ideologue M.S. Golwalkar, who also at the same time has heaped immense praise on the methods of Hitler. Later K. Surshan also openly called for scrapping of Indian constitution and bringing Manu Smriti instead.

While the saints are overtly for the subjugation of Muslims and Christians, at the same time their agenda is to push back the concept of equality for dalit, Adivasis and women. Interestingly RSS came up as a reaction to social changes of caste and gender during the freedom movement. Our national movement stood not only for freedom but also for the transformation of caste and gender towards equality. Barring some exceptions the concept of democracy and secularism go hand in hand. Freedom movement was the epitome of these political and social processes, leading to the emergence of secular India. Today RSS has many mouths to speak and many fora to articulate its agenda. VHP is the crude version of expressing its agenda while BJP, due to electoral compulsions, puts the same agenda in more subtle ways.

The VHP agenda is quite striking in combining the Holy language with profane goals. It will totally ignore the problems of 'this World'; the problems related to survival and Human rights and will harp on identity issues. This brings in a politics which targets the 'external enemies', Muslims; Christians, and intimidates internal sectors, dalits;

Adivasis and women, of society. Its call for doing away with the word secular is nothing new in that sense. Its demand to do away with secular word and secular ethos shows that their Holiness is restricted to the appearance, while they want to maintain their social hegemony through political means. Secularism is not against religion. The best of religious people like Maulana Abul Kalam and Mahatma Gandhi had been secular to the core. They knew the boundary line very well. Also they used the moral values of religion to create bonds of fraternity (community) amongst the people of different religions. There were others who created Hate against the other community, and that too in the name of religion. One can cite the parallel and opposite roles of Muslim League on one side and Hindu Mahasabha-RSS on the other.

The seers, respected because of their Holy garb are misusing their appearance at the service of sectarian politics, they are playing the role of handmaidens of the divisive politics. Secularism precisely means that secular, this-worldly, issues should be the base of politics. So the genuine religious person like Gandhi could distinguish between the moral values of religion which should be adopted in life while shunning the identity related issues from political life, "In India, for whose fashioning I have worked all my life, every man enjoys equality of status, whatever his religion is. The state is bound to be wholly secular." It is a matter of shame and disgust the identity of a religion is being used to pursue the political goals of an organization, supplementing the goals a communal political party by appealing in the name of religion.

At the same time to further demonize the Muslims it is taking up the issue of

terrorism in lop sided manner. The slogan end of Jihad is a way to hide the anti Muslim agenda. There is an attempt to put the blame on Islam and Muslims for terrorism, which is totally false. A political phenomenon is being presented as the one related to religion. So Islamic terrorism word is acceptable to them! All terrorist are Muslims formulation is acceptable to them. But how dare you use the word Hindu terrorism if Sadhvi Pragya Singh Thakur, Swami Dayanand Pande and their ilk is involved in acts of terror? In this meet, overseen by RSS representatives, lot of anger was expressed for the Maharashtra ATS for starting investigations against Sadhvi and Company.

The timing of the meet and the planned Yatras is more then striking. As we await elections, the VHP is trying to revive Ram Temple as an issue and will also be talking of terrorism; about Afzal Guru and will be reprimanding the state for 'torturing' Pragya Thakur. As a matter of fact VHP and this motley crowd of saints is an adjunct to the electoral goals of BJP. It articulates emotive things which BJP will not be able to do because of

election commission and the media watch.

Of all the techniques evolved by RSS, the use of these Holy men for political goals may be the worst insult of the Hindu religion. While these Holy seers infinite in number, many of them have succeeded in building up their own five star Empires, there are others who are sitting on the top of already established mutts. What unites them through VHP is the politics of status quo, the opposition to democracy. We had saints, who talked against caste system and social evils. We had Kabir, Chokha Mela, Tukaram and the lot who stood for the problems of the poor, and now we have a breed, whose agenda is to undermine the prevalent social evils of dowry, female infanticide, bride burning, atrocities on dalits and Adivasis. Their goal is to keep talking about the spirituality and religiosity which is so different from the concerns taken up by the likes of Gandhi and the whole the genre of Saints of Bhakti tradition in India. One hope the people of India can see this clever game of communal politics and differentiate the grain from the chaff.

**Ram Puniyani**

***ONE WOULD LIKE TO BELIEVE that our world's recognized saints and sages have the best interests of everyone at heart in their thoughts and actions.***

***One would also like to believe that the same "divinely loving" and enlightened figures would never distort truth to suit their own purposes, and would never use their power to take advantage (sexually or otherwise) of their followers. They would, that is, be free of the deep psychological quirks, prejudices, hypocrisy and violence which affect mere mortals.***

***One would further hope that the best of our world's sages would be able to distinguish between valid mystical perceptions and mere hallucinations, and that the miracles and healings which they have claimed to have effected have all actually occurred.***

***Sadly, none of those hopes stand up to even the most basic rational scrutiny.***

## OF NUDITY, OBSCENITY AND FREEDOM OF THE PRESS

What prompted me to comment on the above is the sorry state of affairs in Dakshina Kannada regarding freedom of expression. In the month of February there was a flurry of activity in the Jain community. They had invited one of their Munis, who belongs to a sect called as Digambaras to Mangalore for a series of lectures to their community as well as the public.

If there are any religions close to the hearts of rational skeptical people they are the two which have originated in India- Jainism and Buddhism. In both of these the emphasis is on apt living and ethics. Here is no scope for the supernatural or any sort of God. It would be very difficult for anyone to imagine that such advanced level of thought existed in India nearly 2,500 years back or so. In addition, the 'Digambaras' are those who have renounced all worldly possessions including their clothes. They have nothing to call as theirs except the directions- hence, they are called as 'Digambaras'. They observe very strict rites which are said to be a sign of their disciplined life. They walk from place to place, do not take any medication, do not bathe. Even their eating is said to be once a day that too from the cupped palm. The body hair is removed by plucking from the roots- indeed, a very painful process. Even death comes to them by choice and they undergo what is called as Sallekhana in which they voluntarily stop nourishment. It is a sort of life style that any human being would find very difficult to follow and for many of us it would be just impossible.

It would be difficult for any one to

imagine that the visit of one such, who have devoted their life to nonviolence- their activities cease after daylight as they do not want to draw insects to artificial light which would kill them. They sweep the ground on which they walk so as not to kill any insects inadvertently! This activity of walking around without any clothes lead to a debate in a local Evening paper called 'Karavali Ale', edited by Mr. B.V.Seetharam who is well known this area for his fearless journalism. He had invited the wrath of many vested interests of the region by his writings on many issues. These include many feudal elements, bureaucrats, industrialists and many others. His series of articles on the matter as to why the nudity of the Jain munis does not lead to prosecution under the obscenity laws and why it was not banned by the government found a lot of reactions including one from me. I had opined that the nudity of these munis was a voluntary well thought out action while that banned by the government in some other places in Karnataka was a result of spreading superstitious beliefs by the vested interests. I had also mentioned that obscenity is in the eye of the beholder etc. My point of view was also published.

But, what followed is a matter which would shame any right thinking citizen of this country who believes in the process of democracy. Mr. Seetharam and his wife Rohini were arrested at midnight in a scene reminiscent of those dark days of the emergency. The police swooped down upon his residence at midnight on the 3rd of March, a Saturday and took him straight to the residence of the magistrate who remanded him to judicial custody. He was charged with many non



bailable sections of the IPC like abetting enmity among groups, hurting religious sentiments etc. Since he was not in good health he was admitted to the hospital and later on discharged. After the due process of law taking its own sweet time, he was let out on bail on 8th of March. When the bail formalities were over and he came out, he was re-arrested by the police from Sagar, which is about 200 kms away and in Uttara Kannada on the very same charges following a private complaint from some one there. After the due process of law, the bail application has been posted for judgment which is awaited as on March 12th. The consequences of that apart, a detailed analysis is needed about the various aspects of this very curious case. Seetharam has received support from some sections including the intellectuals, civil rights groups, the leftists and others. But, the thundering silence of the major section of the print media is very surprising as they are known to take to the streets at the proverbial drop of a hat.

We Mangaloreans should be sorry to note that our city which was a center of liberal debate (though not action), cosmopolitan outlook (at least in food and dress) has now become a very intolerant place. The notorious behavior of some of the communal elements has caused riots, curfews and a break down of the law and order machinery. Everything seems to be done at the behest of those in power, the rich and powerful. The way Seetharam and his wife Rohini have been treated is just the proverbial tip of the iceberg. One gets a doubt that the Gujarat experiment is on its way here and some of us are just the guinea pigs in this laboratory of hate.

The Seetharam case has many curious turns and unanswered questions. Why

was a journalist arrested at midnight as if he was a criminal on the run? Every one knows very well that he runs a newspaper has a family, an establishment and was not in a mood to run away! He has written more controversial articles and why was this chosen? It looks like a case of victimization for having taken on the vested interests. They have all ganged up and used these articles as a tool to harass him. The way it has been done smacks of vengeance and mala fide intentions. If one has the right to practice his religion and spread their ideology does the nonbeliever not have the right to question and put forward his point of view? Seetharams articles were not defamatory and by no stretch of any ones most fertile imagination could they be a threat to national integrity! Much worse has been written and nothing done about it!

The Jain community is well known for its tolerance and non violent ideology. How was that such a community takes exception to the criticism of the nude status of a Muni and hounds an editor of a newspaper? They had access to the columns of the newspaper and could have put forward their arguments there. Again the deafening silence of most of the politicians is very noticeable. Congressmen who take to the streets for every grievance real or imaginary (particularly if it pertains to their Madam or the Gandhi Nehru family) have not uttered a whimper about the whole issue. Not that one would expect that from them as can be evidenced by their behaviour during the emergency. Perhaps they who have been at the receiving end of Seetharams vitriolic pen are now enjoying his discomfiture? The opposition which had been at the receiving end of such excesses during the infamous emergency are now the

ruling combination in Karnataka and are now enjoying the fruits of power( one of them seems to be harassing any one who opposes them).Again being in the ruling combination Seetharam has been an outspoken critic of their policies.

Why do most of us who equate nudity with obscenity feel that it is justified when done on religious grounds? As for the Indian penal code section applied to him on spreading hatred on religious grounds is there any instance where there has been attack on these Munis after reading his write ups? In fact they are taken in grand processions with police protection (though it looks odd that those who preach non violence should need that!) and with such fanfare that they are the cynosure of all eyes.

For those who stand for the freedom of expression there are a few things to remember.

*One is from Nazi occupied Europe during the Second World War.*

*They first came for the Jews- I did not speak up for I was not a Jew.*

*Then they came for the trade unionists- I did not speak up for I am not a trade unionist. Then they came for the Christians- I did not speak up for I am not a Christian. Then they came for me and there was no one to speak up for me!*

*That was about the Gestapo- the Nazi secret police!*

Though I do not agree with Seetharam, editor of Karavali Ale about everything he writes and the issues he campaigns for- I do feel that he has every right to have his opinion and express it too. The forces of religious reaction are out to get everyone who does not toe their line. So, it is the duty of every right thinking individual who values democracy to come out and support Seetharam's right to express his views as the editor of a newspaper.

As for those who argue that the religious sentiments are hurt, every religion hurts the sentiments of the other as each one claims that it is the only true one and others are false! By that every one who preaches his/her religion should be subjected to criminal action, arrested at midnight etc and subjected to all the tortures that Seetharam and his wife have been put to.

Finally a word for those who do not want to get "involved" a quotation from the eminent parliamentarian Edmund Burke- "All that is needed for the dark forces of evil to take over this world is enough number of good people who want to do nothing". Do we want to be "good" is the choice before us.

**Dr. Narendra Nayak**

President, FIRA

*'Superstitions speak to powerful emotional needs that science often leaves unfulfilled. it caters to fantasies about personal powers we lack. It offers satisfaction of spiritual hungers, cures for disease, promises that death is not the end. It assures us that we are hooked up and tied to the Universe" -*

**Carl Sagan**

## EVOLUTION, CREATIONISM AND INTELLIGENT DESIGN

In 1925, the State of Tennessee in the USA passed a law forbidding teachers in publicly supported schools of the State from teaching that humans had evolved from lower forms of life. Since Charles Darwin had, from a mass of examples, shown that every species had evolved from a lower form of life, the State law was clearly anti-evolution. To challenge the constitutionality, a teacher, John Thomas Scopes taught his class on evolution. He was prosecuted.

Unfortunately, the local population and the judge who tried the case were intensely anti-evolution. William Jennings Bryan, who had failed to win Presidentship three times, was the judge. Clarence Darrow, the famous atheist criminal lawyer, defended Scopes. The trial, known as Scopes trial or Monkey trial ended in the conviction of Scopes. In appeal, the conviction was set aside on technical grounds. There as no further appeal by the State. There was a change in the Board which managed the school and the new Board also did not pursue the matter.

The verdict was ridiculed inasmuch as it held that the theory of evolution was not a science and creationism was science. There is no other case in USA or in any country which suggested that evolution is not a science. As is well known, the US constitution prohibits religion from the State and naturally the State supported institutions such as schools.

What is science? here are two methods by which knowledge is gained. The

deductive method and the inductive method.

All men are rational;  
Aristotle is a man.

Therefore it follows that Aristotle is rational. But if the major premise was "some men are rational", in order to prove that Aristotle is rational, one has to include him in "some men". This can be done only by induction. Induction is the method by which one arrives at knowledge on the basis of evidence. You cannot guess knowledge. You can induce or arrive at prevail upon. a scientist propounds a hypothesis and proceeds to collect evidence to see whether that hypothesis is correct. All crows are black. By noting that every crow which he/she comes across is black, he propounds that all crows are black. This is theory - though it is falsifiable one. One white crow anywhere in the world falsifies the theory that all crows are black. In other words, a proposition which is based upon evidence or extant facts is taken as true till something contrary appears.

In 1831, a young man of 22 years, Charles Darwin, joined a ship, "Beagle", as a mate. As the ship sailed down the east coast of South America and up with the west coast, Darwin collected plant and animal life of various forms. He found that various finches showed evolution from a lower life to higher life. this was true of human beings also. This was the evolution of human. This theory is based upon massive evidence, not contradicted by any other evidence. Hence Darwinism is a theory and a

scientific theory. To this day it holds the field. The theory of Darwinism (of evolution) has been modified and sharpened in the 20th century by advances in genetics and mutations.

But the forces of darkness are never easily defeated. Fundamentalists like Bryan kept alive the attack on evolution. The obscurantists, in Scopes trial, had won the battle but they lost war in the long run. The intelligent and intellectual public and all the scientists accepted the theory of evolution as modified by the subsequent scientific knowledge. The obscurantists, however insisted that the world was a creation, created by the creator. This is the sum and substance of creationism. Later they abandoned the literal first chapter of the Bible containing the account of Genesis.

As recently as 2005, the attack on science in general and theory of evolution in particular, continued. Most of the debate has taken place in USA where there are many fundamental sects. In *Kitzmiller v Dover*, there was a concealed challenge to Darwinism. Judge Jones ruled conclusively and in strongly worded language that intelligent design was not a science. He explained:

1. " ID (Intelligent Design) violates the centuries old ground rules of science by invoking and permitting supernatural causation;
2. the argument of irreducible complexity central to ID employs the same flawed and illogical contrived dualism that deemed creation science in 1980s, and
3. ID's negative attacks on evolution have been refuted by the scientific community."

Somewhat echoing Judge Jones' language, an Arkansas Federal Court

reviewed the creationist movement and concluded that it was nothing but a disguised attempt to teach the Bible in the science class. In 1988, the US Supreme Court dealt with a Louisiana law as advancing a particular religious belief. As early as in 1799, a wall of separation, in the language of Thomas Jefferson, had been erected between the Church and the State by the first amendment. Thereafter the US Supreme Court has consistently held illegal the introduction of religion in public institutions. In one case Justice Hugo Black, a devout Christian and a Sunday school teacher held that even a non-denominational teaching is prohibited. He pointed out that religions like Buddhism and Humanism did not believe in God.

Fundamentalists were shrewd and clever. They abandoned their stand on the literal interpretation of the Bible and mounted a new more insidious attack on evolution. They spoke vaguely of a creator and were careful not to use the words of the Bible. They however argued that evolutionary theory was full of flaws and could not be true. Therefore creationism was true.

In order to prove that the theory of evolution was not true, they resorted to quoting out of context, misquotations and distortions and did not examine the evidence so assiduously collected by Charles Darwin. They contented that their view was correct without adducing evidence in support. Though they did not seek ouster of evolution from the schools, they demanded that creationism be given equal time. Their constituency is usually churchgoers who knew no science or scientific method.

Creationists seek the propaganda value of being able to say that their views are

based on science. Even the scientific (actually technological) instruments are attributed to creationism. They do not answer the question as to what creationism is and how it is scientific. Where is the evidence of creation except that universe is a creation and there must be a creator. All scientific research and investigation show that the universe came into existence billions of years ago. Yet one Mr James usher, an Irish 17th century archbishop propounded that the creation of man took place on 23rd Oct 4004 BC. His calculation was based entirely on Bible.

Creationists are losing ground, if they have not lost it already. So ID people have taken over. ID claims that certain features of the universe and of living things are best explained by an intelligent clause; there cannot be an undirected process such as natural selection. It is a new, 'respectable' name for creationism and has been canvassed

by one Charles Thaxton. The difference between creationism and ID is that ID does not name creator; it claims only that some things are too complicated to have come into existence without a creator. In this way ID tries to avoid religious cloak and presents itself as a scientific theory. To be taught in a school, a claim must not only be scientific; it must also well established. How do you explain the explosion of Kanishka plane in which hundreds of innocent lives, including those of women and children were lost? To take a recent example - Tsunami. ID does not and cannot explain it. The USA is repeatedly battered by hurricanes. It is not very intelligent. There are earthquakes, epidemics, famines, etc. and no amount of intelligence can explain these things. After all it is law-governed universe and only science can explain these things. No scientist worth his/her name has subscribed to the theory of ID.

**Justice R A Jahagirdar, (Retd)**

*Superstition is:*

- *To believe in spite of evidence or without evidence.*
- *To account for one mystery by another.*
- *To believe that the world is governed by chance or caprice.*
- *To disregard the true relation between cause and effect.*
- *To put thought, intention and design back of nature.*
- *To believe that mind created and controls matter.*
- *To believe in force apart from substance, or in substance apart from force.*
- *To believe in miracles, spells and charms, in dreams and prophecies.*
- *To believe in the supernatural.*



## HOMEOPATHY — STILL CRAZY AFTER ALL THESE YEARS

Homeopathy is one of the longest running forms of pseudoscience in the modern world. Oliver Wendell Holmes recognized that it was nonsense back in 1842 when he wrote “Homeopathy and Its Kindred Delusions.” We long ago gave up the nonsense of trying to balance the four humors by bloodletting and purging, but the homeopathy Energizer Bunny is still marching on. What makes it so indestructible?

One reason is a lack of understanding about what homeopathy really is, even among health care providers. I recently heard about a nurse who thought “homeopathic” just referred to any mild natural herbal remedy. In case any readers are similarly confused, here’s a brief overview. Homeopathy was invented by Samuel Hahnemann in the late 1700s. It is based on the now-outdated principle that “like cures like,” and the lower the dose the better in homeopathy. If coffee keeps you awake, highly diluted coffee will put you to sleep. The more dilute the coffee, the better you will sleep.

To figure out what remedy works for what symptoms, you do a “proving” by giving a substance to healthy people and writing down every symptom they have for the next few days (without trying to determine whether the symptom was due to the substance or was just coincidental). You make a remedy by diluting that substance many times and shaking it (succussing) at each step. You look up a patient’s symptoms in a book listing all the different proving results, and you give him the remedy that best matches what ails him.

For one remedy, the book lists symptoms in 19 body systems, with entries such as this one: “Pain in back, with desire for some firm support. Every movement accelerates the circulation. Palms hot and perspiring. Nasal discharge or dry nose. Hangnails. Warts. Chill between 9 and 11 AM. Coldness of legs with congestion to head, chest, and stomach. Sleepy in forenoon. Dreams of robbers...” It goes on like that for pages. All of those symptoms were reported in provings by healthy people after they ingested *Natrum muriaticum*. That’s table salt. How could anyone seriously believe that table salt causes all those symptoms, or for that matter believe that a dilute salt solution could relieve all those symptoms?

How dilute? Serious dilution, as in comparable to one drop diluted in all the water on Earth. When they realized that no molecules of the original substance were left in most homeopathic dilutions, homeopaths rationalized that the water must “remember” what it had come into contact with — as in clusters of water molecules somehow holding the memory of their encounters with the allegedly curative substances. Unfortunately, homeopaths have failed to explain how water can remember what it’s supposed to remember, and forget all the other memories of coming into contact with various trace contaminants, elements, bacteria, and whatever else happened to float by at the time.

In homeopathy, any substance can be a remedy; even a non-substance. My favorite is “eclipsed moonlight.” I’ve been trying to find out how they collect it to prepare the remedy; no one’s talking.

And then there was the homeopath who was selling homeopathic vaccines for smallpox and anthrax, which he said were made by diluting the real thing. I reported him to Homeland Security, because if he can get the real thing, so can terrorists. Jacques Benveniste is infamous for winning two IgNobel prizes for homeopathy studies: the first one couldn't be replicated when proper blinding controls were used; in the second one, he claimed to have sent the electronic signature of the remedy over the Internet.

The Benveniste basophile degranulation study was a convoluted attempt to show that water could remember. It was supposedly replicated in other labs, notably by Ennis. Homeopaths are still citing these studies as evidence for the memory of water, but this is intellectually dishonest. In the first place, the studies are completely discredited by the fact that every attempt to repeat them with proper blinding has failed. When James Randi and a team from *Nature* visited Benveniste's lab, his experiment stopped working. When Ennis's experiment was repeated for Randi's million dollar prize on the BBC show *Horizon*, it failed. If the experiment really worked under proper blinding conditions, someone could have easily won the million dollars by now.

In the second place, homeopaths don't seem to realize that if the results of those experiments were valid, it would mean that homeopathy *couldn't possibly* work as advertised. The effects went up and down with consecutive dilutions rather than steadily upwards, and it appears that they got a similar effect from a dilution as from the full strength solution, rather than getting the expected opposite effect.

Homeopathy is about as silly as it gets. Silly wouldn't matter if it worked, but it doesn't. People think it works because they get placebo effects and the homeopath keeps them entertained while they get better on their own.

One recent meta-analysis claimed to have found that homeopathy worked better than a placebo in general, but that it didn't work better than placebo for any specific condition. I'm still trying to wrap my brain around that. That's like saying broccoli is good for all people but it isn't good for men or women or children. Other meta-analyses have been negative, especially the ones that looked at only the higher quality studies. A recent editorial in the British medical journal *Lancet* proclaimed "The end of homeopathy."

Perhaps the most promising development is that Edzard Ernst, MD, has spoken out strongly against homeopathy. This is important because he was a practicing homeopath and the world's first professor of complementary medicine. For the last 15 years he has led a team of researchers studying the evidence for alternative medicine, and he now concludes, "With respect to homeopathy, the evidence points towards a bogus industry that offers patients nothing more than a fantasy."

Despite science and reason, homeopathy isn't about to go away. It has some really good things going for it. When you visit a homeopath, he wants to know all about you. He gives you far more time and attention than your MD does. He picks a special treatment designed just for you. If it's not working he has an explanation and something else to try next time. He's always confident he can help you get better. Homeopathy is inexpensive. It has no

side effects. It's the ideal placebo. It's great for the worried well and the hypochondriac. It's great for those elusive symptoms scientific medicine cannot diagnose and cure. It's harmless except in cases where patients are persuaded to forgo effective medical treatment, or when homeopathic vaccines are offered in lieu of real vaccines.

It's popular in Great Britain where Queen Elizabeth uses it, Prince Charles promotes it, five homeopathic hospitals are still operating, and the National Health Service is paying a good chunk of its budget for it.

Let's say you aren't sleeping well. You could go to an MD and get a prescription sleeping pill that only works a little better than a placebo and has side effects, or you could go to a homeopath and get a placebo that has no side effects and is a lot cheaper. You're probably better off with the placebo. Why don't MDs prescribe placebos? Because it's unethical: we don't lie to patients; we can't tell them a remedy is effective if we know it is no more effective than a sugar pill.

It's easy to see how doctors could be persuaded that homeopathy works. Patients tell them they feel better. That's why bloodletting and purging lasted so long: patients got better *despite* the treatment and the treatment got the credit. That's why we have to do randomized controlled trials to make sure just as many patients don't get better *without* treatment.

The arguments homeopaths use to support their beliefs would earn an F in a Logic 101 course. Here are just a few taken from "Presenting 50 Facts About Homeopathy" by Louise Mclean.

- Hippocrates said there was a law of similars. (Hippocrates also said all illness was due to an imbalance of the four humors.)
- Homeopathic provings are a more scientific method of testing than the orthodox model. (If you say something totally false often enough, someone might start to believe it.)
- There are more than 4000 homeopathic remedies. (None of which work)
- The exact substance in a homeopathic remedy is known, unlike most modern drugs where we are rarely informed of the ingredients. (What? We are informed if we know how to read!)
- Homeopaths treat genetic illness, tracing its origins to six main genetic causes: Tuberculosis, Syphilis, Gonorrhea, Psora (scabies), Cancer, Leprosy. (Geneticists would be surprised to hear this.)
- Homeopathy got better results than conventional treatment in epidemics of cholera and typhoid in the 19th century. (Only because 19th century conventional treatment did more harm than good. Today's conventional medicine is a bit more effective.)
- Lots of people believe in homeopathy. (Lots of people believe in ghosts and angels, but that doesn't make them real.)
- Big Pharma doesn't want us to know how well homeopathy works. (Conspiracy theories are alive and well.)
- Queen Elizabeth never travels anywhere without her homeopathic vials of medicine.

Arguments like these just highlight the intellectual bankruptcy of the homeopathic belief system. They would love to find scientific validation, but they

reject science when it doesn't support them. One repeated excuse is that the remedies are individualized so they don't lend themselves to controlled trials. That's just nonsense. A homeopath could prescribe individualized remedies and third parties could randomly dispense either what had been

prescribed or a placebo control. Neither patient nor homeopath would know which the patient got.

Homeopathy was humbug in 1842. It's still humbug today. That's a diagnosis you can prescribe to everyone.

**Harriet Hall, MD**  
Courtesy: *SKEPTIC*

### **God is in your Mind**

Not to put too fine a point on it, but so is everything else. Nothing we experience falls outside the mind, and the wonderful wetware behind it we call the brain. So looking into it to find out what's going on when we experience some of the most profound--and ancient--of human experiences is a no brainer.

But researchers must tread with caution. Science understands little of the mind, let alone the brain that generates it (and even that would be debated by some). So it is nearly impossible then to probe a mindful experience like being touched by the divine, especially with the crude tools of fMRI, EEG and other neuro-scans. If we cannot know the mind of man, how then can we know the mind of a presumed god?

Still, it's interesting to take a peek, no matter whether you are Richard Dawkins (who, interestingly, failed to experience anything in the putative "God helmet," a finding its progenitor Persinger put down to a brain abnormality), the Dalai Lama, or even Pope Benedict.

What do you think we might find?

## OBSCURANTISM AND INDIAN EDUCATED CLASS

According to dictionary, 'obscurantism' means opposition to enquiry or reform. In common parlance, it has come to mean opposition to science or to truths discovered through science (as spirit of enquiry is the main motivation behind science), and to social and economic progress (as continuous reforms are the basis of such progress). Today, obscurantism may be considered to encompass all acts of irrationality such as communalism, unscientific ideas and beliefs, superstitions and dogmas, and blind adherence to religion, customs, convention and tradition.

In India, unfortunately, the situation in respect of the attitude to obscurantism of either the educated, or amongst the educated, of the academicians, or amongst the academicians, of the scientists, is very unsatisfactory. A vast majority of scientists are prone to hold obscurantist views. They believe more or less blindly in the dogmas of religion, in the teachings of classical philosophy, and in custom, convention, tradition, etc. They accept and propagate all kinds of fads, for example food fads; they are unable to distinguish between legend and history (many university teachers and research workers would be unwilling to accept that Rama, Lakshman, Sita and Krishna, or various incarnations of Vishnu, are legendary figures); they have implicit faith in miracles (they would consider you a heretic—an undesirable person to associate with—if you said that Jesus Christ or the Buddha could not perform miracles any more than you or I can).

It is not knowledge (which it is their business to acquire) but superstition and

irrational and illogical beliefs which guide their lives. Most of them still look for an auspicious day to travel. They regularly practise rituals like visiting a temple, mosque or church; the Hindus believe propitiation of one of their numerous Gods, for example, Lord Venkateshwara at Tirupati, would materially benefit them, or that having a dip in the waters of river Ganges will wash off their sins.

Much of their valuable time is spent in everyday recitation of prayers or in worship at home; this is often done even at school. They have a blind belief—without any scrutiny—in the supernatural powers of individuals like Sai Baba. They believe in astrology and in irrational medical practices like homeopathy, which go against the very grain of science. They support unscientific and irrational movements like the one for a ban on cow-slaughter. They are reluctant to accept, at least in private life, well-established scientific theories like that of the origin of man as a result of evolution by natural selection; they would still like to believe that man was deliberately put on this earth by a Supreme Being.

They believe in the existence of soul and in life after death. They are wedded to the concept of an all-powerful deity like God and consider it a sacrilege to challenge it. They would rather spend their limited resources on the celebration of religious festivals than on the education of their daughters, and in the heart of their hearts they nurture sectarian views. It would indeed be a rare scientist in our country, whether in a school, college or university, or in a research laboratory, industry, or the Government, who would not be prone to



obscurantist views such as the above; by and large, he would reject conclusions based on the findings and discoveries of science and show preference for revealed truth.

As a consequence of all this, our academicians—scientists included—mostly look backwards, for inspiration, and not forward. One can, therefore, conclude that most of those who technically come under the definition of academicians or scientists in our country are in reality, neither. This helps to perpetuate obscurantism as such views on the part of those engaged in an academic profession, only help to consolidate obscurantist ideas amongst the masses.

### Proper Education...

The only permanent, long term insurance for getting rid of obscurantism from our society is to lay emphasis on the *right kind* of education. One of the professed objectives of education must be to equip the recipient to fight obscurantism of which he would otherwise be a victim. Education, right from the very beginning, should be science and knowledge-based. Today, textbooks are one of the prime conveyors of obscurantist ideas to school children. They should be carefully scrutinised before they are prescribed by an independent group of “committed non-obscurantist”, and such people should be encouraged to write textbooks themselves. Further, every possible attempt should be made to emancipate teachers from obscurantist ideas, for example, by holding for them seminars, summer schools, refresher courses, etc., in which the emphasis is on anti-obscurantism. The general approach to education should be a positive one, that

is, to create an environment where a student or a teacher would be able to see for himself that obscurantist ideas are not only incompatible with modern knowledge but that they generally act as a great obstacle to his own personal progress as well as that of his fellow human beings.

### Role of the Government

The Government should take strong exception to obscurantist teaching in schools, for example, by stripping them of their grants and recognition. The Government should encourage its own employees to take positive steps towards fighting obscurantism. One might argue that this would be against the professed pro-secular outlook of the State. Such an argument would, however, have little validity. Even today, for example, if a Government employee refuses to travel in a certain direction on a Wednesday because it is against his belief (he can cite religious books, custom, convention and tradition in support of his belief) he is liable to disciplinary action by his superiors. The time has come when we must realise that if any action based on the dictates of religion, classical philosophy, dogma, custom, convention or tradition goes against the basic, long-term legitimate interests of the society at large, those in power must take steps to ban such action. Our own history supports this argument. For example, the Sharada Act and the Act permitting the remarriage of Hindu widows were, at the time they were passed, considered an infringement on the rights, customs and religion of the Hindus; today they are accepted in a large measure by the Hindus themselves. A stern anti-obscurantist policy by the Government would, therefore, not be anti-secular inasmuch as it would not imply

discrimination on the basis of religious or allied considerations. I can conceive of many legislations which if passed would help the anti-obscurantist movement in the country to a great extent, and thus make the task of national progress immensely easier. Unfortunately today even high dignitaries of the Government support and encourage in official speeches—to cite one example—an irrational and unscientific medical system like homeopathy. A senior scientist who was till recently Scientific Adviser to a Central Ministry and occupied one of the top six Governmental scientific positions in the country (thus presiding over the destinies of thousands of scientific workers) had, on the invitation card for the wedding of his son, the photograph of Satya Sai Baba (who is, at best a good conjurer) in whose “divine” presence the wedding was to be solemnised; and a Minister of the Government of India shied away, at the last moment, from presiding over a serious-minded academic conference on obscurantism.

### Press and Publicity Agencies

The press and Governmental publicity agencies like radio, television and the State departments of information can be highly effective in fighting obscurantism in the country. Unfortunately, so far they have been actually serving, directly or indirectly, the cause of obscurantism. One could hardly find an issue of a widely read newspaper or periodical

published in the country today which somewhere in its column does not propagate an obscurantist idea.

### Voluntary Organisations

Lastly, as many voluntary organisations as possible should be formed and supported by people who are so fortunate as to be emancipated from the shackles of obscurantism themselves. The approach should be positive, that is, propagation of knowledge and the creation of an environment, which would automatically lead people to reject obscurantist ideas by virtue of their own logic. The fight against obscurantism should not be carried out in an evangelistic tone. Indeed, their approach should distinguish these organisations from the numerous sectarian ones in the country, which are causing untold harm to national (and human) interest.

### Conclusion

Lastly, let us recognise the fact that getting rid of such deeply-rooted obscurantist views as prevail among the vast majority of our people is not a trivial task and is bound to take time. One must not expect quick results. What is important is to *begin* an organised effort which will sustain. The responsibility of making this beginning must lie with the academicians, the intelligentsia and the educated elite of the country.

**PM Bhargava**

(This is an edited version of the full article from the Book *Angels, Devils and Science*; a collection of articles on scientific temper by Pushpa M Bhargava and Chandana Chakrabarti)

## HUMAN EVOLUTION: MORAL THINKING

WHENCE morality? That is a question which has troubled philosophers since their subject was invented. Two and a half millennia of debate have, however, failed to produce a satisfactory answer. So now it is time for someone else to have a go. And at a panel discussion at the American Association for the Advancement of Science meeting, a group of biologists did just that.

Mark Hauser, of Harvard University, opened the batting by asking whether morality is more than just the refined application of the emotions. He thinks that it is. Human brains, he believes, have a separate morality module. Brain-scanning experiments show that when a volunteer is faced with a moral dilemma (such as a runaway railway trolley approaching a set of points, with dire consequences whichever way he throws those points) his emotional centres are not involved in the decision. Such “trolleyology”, as it has waggishly been dubbed, also suggests that reason is not part of the process. Different ways of killing the same number of people with a runaway trolley produce systematically different answers.

That does not mean all moral decisions have to be the same in everyone (though in trolleyology they often are). Instead, Dr Hauser uses the analogy of language. All healthy humans have, in the words of his Harvard colleague Steven Pinker, a “language instinct” which incorporates the idea of nouns, verbs, adjectives and how these all fit together. Exactly which language you learn, though, depends on your upbringing.

David Sloan Wilson, of Binghamton University, in New York state, agrees

with that point, but reckons the actual moral sense an individual acquires is not arbitrary, as a language is, but is functionally adapted to circumstances. He and his colleague Ingrid Storm looked at liberals and conservatives (in the American senses of the words). Each group has a package of values it sees as moral, while viewing many of the beliefs of the other side as immoral. Dr Wilson and Dr Storm restricted their study to white, Protestant teenagers, in order to eliminate confounding variables. However, their volunteers came from two different traditions—Pentecostal, which tends to the conservative, and Episcopalian, which tends to the liberal.

The researchers conducted the study by giving each volunteer a beeper that went off every two hours or so. When it beeped, the volunteer answered a questionnaire about what he was doing at that moment, and how he felt about it.

Dr Wilson and Dr Storm found several unexpected differences between the groups. Liberal teenagers always felt more stress than conservatives, but were particularly stressed if they could not decide for themselves whom they spent time with. Such choice, or the lack of it, did not change conservative stress levels. Liberals were also loners, spending a quarter of their time on their own. Conservatives were alone for a sixth of the time. That may have been related to the fact that liberals were equally bored by their own company and that of others. Conservatives were far less bored when with other people. They also preferred the company of relatives to non-relatives. Liberals were indifferent. Perhaps most intriguingly, the more religious a liberal teenager claimed to be, the more he was willing to

confront his parents with dissenting beliefs. The opposite was true for conservatives.

Dr Wilson suspects that the liberal package of individualism and confrontation is the appropriate response to survival in a stable environment in which there is leisure for learning and reflection, and the consequences for a group's stability of such dissent are low. The conservative package of collectivism and conformity, by contrast, works in an unstable environment where joint action, and thus obedience to their group, are at a premium. It is an interesting suggestion, and it is one that plays into the question of how morality actually evolved.

That was addressed by Samuel Bowles, of the Santa Fe Institute in New Mexico. An important feature of moral behaviour is altruism. Normally, biologists explain this as being either nepotism or you-scratch-my-back-and-I'll-scratch-yours.

But Dr Bowles believes people do perform acts which cost them more than they gain. To explain this, he invokes an

idea that went out of fashion in the 1960s: group selection. This says that the winnowing of the gene pool, which drives evolution, can favour or destroy entire social groups as single entities, as well as working at the level of individual organisms.

No one ever claimed group selection is impossible, but it looks mathematically unlikely. Dr Bowles, however, thinks that the virtues of human collaboration are so great that groups composed of genuine, self-sacrificing altruists would out-compete others.

His best example of such self-sacrifice is warfare, an activity in which morality and immorality intersect in ways that have always been puzzling—and where liberals and conservatives often draw opposite conclusions about what is right and wrong. Paradoxically, that clash of views suggests that Dr Bowles and Dr Wilson really are on to something with the idea of functional morality. Perhaps they and their colleagues can eventually do what philosophers have never managed, and explain moral behaviour in an intellectually satisfying way.

Courtesy ***The Economist***

*The foundation of superstition is ignorance, the superstructure is faith and the dome is a vain hope. Superstition is the child of ignorance and the mother of misery.*

## DARWIN ON A GODLESS CREATION

Before marriage, Charles Darwin had confessed everything to her. That he was in the process of rewriting the history of life. That, according to his convictions, all living things descended from a common ancestor. And that species were not to be attributed to God's endless creativity, but were the product of a blind, mechanical process that altered them over the course of millions of years. This alone was pure heresy. Darwin even nursed doubts about the very survival of human beings.

And this man, who had gone around the world once, and was going to marry Emma Wedgwood, did not believe a single word of the biblical story of creation. "Reason tells me that honest and conscientious doubts cannot be a sin," wrote the deeply religious Emma to her betrothed in a cautioning letter in November 1838. "But I felt that it would be a painful rift between us." Charles was supposed to find his way back to the right faith by reading the *Bible*: "I implore you to read the parting words of our Savior to his apostles, beginning at the end of the 13th chapter of the Gospel according to John," she wrote.

But for Charles Darwin there was no turning back. He definitely assured Emma in his reply that he would take her concern seriously. But in fact he was experimenting at that time with all kinds of heretic theories. "Love of godhood is a result of intellectual organization, oh you materialist!" he confided to himself in revolutionary words in his secret notebook. And although his theories were not yet mature, he was completely aware of their explosive nature: By dissociating intellect and morality from god's power of creation, and attributing

them instead to self-evolving forces, Darwin undermined the very foundations of a society shaped by the Anglican Church, with its hopes of eternal life and the omnipresent threat of punishment.

"As soon you realize that one species could evolve into another, the whole structure wobbles and collapses," he remarked. And if man were nothing but a superior animal, where would that leave his spiritual dignity? And if he himself is the product of evolution, then what about his moral accountability to God?

### **Believe only what is proved**

"Charles' confession was a big shock for Emma," explains the science historian John van Wyhe from the University of Cambridge. "On the other hand, he impressed her with his openness and honesty. Nothing would have hurt her more badly than the feeling that her future husband was keeping secrets from her." But Emma's worries over the well-being of Charles's soul could not come in the way of her wedding at the end of January 1839. His habit of "never believing anything till it is proven" had apparently prevented him from "taking into account other things that cannot be proved in the same manner, and which, if they are true, would probably go far beyond our power of imagination," she complained in another letter. Emma's worst fear was that Charles was forfeiting his salvation through his religious disbelief, and this threatened to separate them in death.

Her letter was to go unanswered. "Charles respected Emma's faith and probably kept his religious doubts to himself," van Wyhe says. The man from



the English town of Shrewsbury, northwest of Birmingham, had drawn his theories from it. His wife's reactions had shown him how difficult it was to convince other people of his ideas: The criticism would be devastating were he to publish his theories without adequate proof; and his scientific career would be ruined.

If he wanted his theories to be accepted, he would have to leave the tricky "issue of apes" on the periphery and write only about how oranges or animals changed gradually. And he would need collaborators, respected naturalists who would stand by his side—scholars like Charles Lyell, whose *Principles of Geology* had given him important intellectual stimuli.

He had collected enough facts. Charles Darwin had spent five long years in the remotest corners of the Earth and observed, described and dissected with inexhaustible meticulousness. But his proud booty was to reveal its secrets only gradually; small bits of a puzzle that fell into place slowly, forming a larger, overall picture, and gave shape gradually to his theory of the evolution of species. "The journey on the *Beagle* was, by far, the most important event in my life, and shaped my whole career," Darwin once said, looking back on his time on board the ship.

In August 1831 the British Admiralty was looking for a young gentleman to provide company for Capt. Robert Fitzroy, a small, dark haired man with fine features and an aristocratic arrogance during his long mission. The HMS *Beagle* was supposed to chart the South American coast on its survey journey. "You are exactly the person they are looking for," the old botany professor John Stevens

Henslow wrote to his former student, the 22-year-old Darwin. Fitzroy wanted a natural scientist as companion, because this would mean unprecedented opportunities for him to engage in research on the extended stopovers on land. The ship was equipped for scientific research; a man of "commitment and intelligence could do wonders," Henslow gushed.

Darwin was indeed not a full-fledged natural scientist, but he could still make up for this deficit by taking along some books. The young man plunged into the preparations as if electrified, and in all haste: the journey was to begin soon. It was the chance of a lifetime. But sober reality didn't dawn on him until after the *Beagle* set out from Plymouth, shortly after Christmas in 1831.

If only he had listened to his father! Robert Waring Darwin had been against Charles's feverishly embraced the adventure, right from the start. Another of these useless ideas that had gotten into this fickle son's head—further proof of his aimlessness. The aspiring natural scientist had abandoned his study of medicine, and the homeless years in the company of rough seamen were going to ruin him completely. It was only the appeal of an uncle that persuaded the elder Darwin to consent. But after just three days on rough seas, the aspiring natural scientist was already yearning for the soft meadows of his Shropshire home, on the Wales border. Even a lonely parish in the country would have been an utterly welcome prospect to him now: firm land beneath the feet, above all!

All day he could not hold down anything but rusks (breads) and raisins or, if even these repulsed him, glögg (spiced wine), offset with sago. And when he tried to

stand up in his tiny cabin, he almost knocked himself out cold. From the deck, he could hear the shrill voices of four crewmen, who were being punished by Fitzroy with a total of 134 lashes for their Christmas escapades.

"Before the journey, I used to say often that I was certainly going to thoroughly regret the whole enterprise," he wrote in his diary that day. "But I had never thought how vehemently I was going to do so."

Fitzroy, who swore by physiognomy (judging character based on outward appearance), had also known it all along: Darwin's nose pointed to a deficiency in energy and resoluteness; his knowledge of people indicated that this young gentleman was never going to make it till the end of the journey.

### **Chaos of rapture**

And how wrong he was! Once the *Beagle* reached the South American coast on the 28th of February 1832, Darwin became enraptured by what seemed to him to be paradise. While the crew chartered and plotted the harbor of Salvador in the Baía de Todos os Santos (the Bay of All Saints), Darwin wandered in astonishment through the Brazilian rainforest, caught in the "chaos of rapture," completely bewitched by its wealth of vegetation. "The landscape in Brazil is like looking into a *Thousand and One Nights*, with the advantage that this is real," he wrote in his diary.

Resting in a shaded spot, he listened to the humming, squeaking and pulsating life around him. He heard parakeets screeching, saw hitherto unimagined varieties of orchids and anthills standing more than 10 feet (three meters) tall. Not a single bizarre detail seemed to escape the young researcher: He once

discovered a spider that preyed on alien webs and played dead and fell down if it sensed danger. Then he came across a wasp that stung caterpillars and used them as food for its own larvae in its nest of loam. "And imagine," he cried out after having shot a particularly magnificent lizard, "calling a pleasure such as this duty!" but the journey had some more surprises waiting.

In the bay of Punta Alta in Argentina, Darwin chiseled out the fossilized bones of a colossal protozoan from the cliff side. Beside himself with joy, he lugged the valuable find on board the *Beagle*. The booty, scorned by Captain Fitzroy as "a box full of useless stuff," was to make him famous later. There was only one comparable specimen in England at that time. When he returned to the site a few months later, he was able to free from the cliff almost the complete skeleton of a bizarre mammal, the size of a horse, with an enormous pelvis and a narrow, long face, resembling that of an anteater. "Formerly, this place must have been teeming with large monsters", he recorded later in his travel log. But why did they die out? And why were the extinct giants so similar to the animals now found in South America, except for their size?

Darwin began to ask questions. The gauchos told him about a unique variety of a South American bird called a rhea, smaller and darker than usual in form. Very few had seen one, but their nests had been found, and everyone confirmed that it was found more frequently farther south. After a long search, he found the unique creature: on his plate for dinner! Incredible: he had finally found the unique bird and almost eaten it inadvertently! Fortunately, it was still possible to save the "head, neck, legs and one wing," and some large

feathers; they were conserved promptly and stacked away in the hold. Why is a type of ostrich found only in North Patagonia, and the others are found only in the south? Why did the Almighty have to create two such closely related species, whose environments hardly differed?

In the beginning of the year 1835 the *Beagle* reached the coast of Chile. After a morning ramble through nature, Darwin was stretched on the ground when it began to shake. "The Earth—the epitome of firmness," the natural scientist wrote, trembled under his feet "like the crust on a liquid."

It was only in the following days that the terrifying dimension of the catastrophe that lasted about two minutes, became evident to Darwin as the *Beagle* sailed up the long Chilean coast. "The entire coast was strewn with balconies and household objects, as if a thousand ships had been stranded", he reported. The city of Concepción at the foot of the Andes offered a terrible scene: "The ruins were so scattered and the whole scene had so little of anything akin to a habitable place, that it was barely possible to still imagine the earlier state."

The inhabitants spoke of the worst earthquake mankind had ever known. The shock waves had reached Concepción, "rumbling like distant thunder"; fires had broken out everywhere. Those who had managed to salvage their material possessions were living in fear of plunderers. And then the wave came: a tsunami, taller than 20 feet (six meters), broke over the city. Innumerable people drowned or were washed away.

Once he had recovered from the initial shock, the young researcher went

looking for the cause of the quake. The local people along the coast told him about a shallow edged by cliffs, which was earlier covered completely by water, but had become exposed after the earthquake. And on the island of Santa Maria, barely 30 miles (50 kilometers) or so away, he came across fresh banks of mollusks just above the flood line, which had already begun to rot away. The land must have heaved just a few meters away! That was the unequivocal evidence for the hypotheses postulated by Charles Lyell in his "Principles of Geology": mountains such as the Andes had not been formed in one colossal upheaval, but grew, barely perceptibly, over the course of millions of years, as the result of countless small quakes, to which Darwin had just been a witness. But had not the Archbishop of Armagh, James Ussher, calculated in 1658 the Earth's age accurate to the day? Accordingly, god must have created our planet on the night preceding October 23, 4004 B.C. on the Julian calendar.

### **Cultivated part of hell**

Toward the middle of the year the *Beagle* left behind the South American continent and set sail for the Galápagos islands, where the crew came upon a cheerless scenario: "A jagged field of (irregular or wavelike layers of) black, basaltic lava pockmarked with huge fissures, and covered everywhere with stunted, sun-burnt brushwood," Darwin complained in his report. The land, overheated by the midday sun, lent the sweltering air a closed and oppressive feeling, like an oven; and it smelled very unpleasant. Countless crabs and iguanas ran helter-skelter in all directions as the new arrivals clambered from cliff to cliff, "like one might imagine the cultivated part of hell," Darwin wrote. The birds were not afraid of human beings and were very tame; where was

the joy of hunting, then?

Conscious of duty, he added the animals to his collection. He thought he had collected wrens, finches, black and spotted thrushes. But the forms of the beaks puzzled him: some were thick and strong, like those of the grosbeaks, others, on the contrary, were thin like those of songbirds. But he did not stop to figure out which bird came from which island. It was too late when Darwin realised that he had missed an opportunity. Shortly after departure, the vice governor of the English penal colony at the Galápagos Islands told him that each of the colossal turtles that were native to these islands could be assigned to its respective island of origin, based on the appearance of its shell. In other words, the turtles of those islands were unique variants, perhaps even separate species; Darwin had already suspected something similar for the plants. Could it possibly be true for the birds as well? It was no longer possible to discover the truth, because his specimens were not adequately labeled and the *Beagle* was already on its way home across the Pacific.

On October 1836 the ship reached England. Barely had he touched shore when Darwin handed over the birds from the Galápagos to the renowned ornithologist John Gould. The latter was not too bothered about how the bills had evolved on the birds. In the case of the spotted thrushes, Darwin had suspected that they were distinct varieties (ranks below that of a species). Gould, however, found that these were in fact three new species, closely related to the species that are native to the South American continent. Darwin had made another mistake: Gould recognised that what were supposed to be black thrushes and wrens were also types of

finches. They were so unique that he later put them under a new group of finches that consisted of 14 species, each of which had its own ecological niche on the Galápagos. Was it possible that something similar applied to the species Darwin had originally classified as finches as well? Darwin contacted Captain Fitzroy, whose crew members had put together their own collections, and had been more conscientious in labeling them. And indeed, like in the case of the thrushes, every island had its own species of finch!

In his notebook, he speculated on the uniqueness of animals: Darwin's finches now no longer lived in the 6,000-year-old world created by God in seven days, but on an archipelago that must have risen, not too long ago, at least in geologic terms, from the Pacific.

Once they had appeared, birds from the South American continent could have reached the group of islands. Over generations, the animals changed and adapted themselves to their respective environments, finding their way into as yet unoccupied ecological niches.

In his notebook, he drew a branched genealogical tree showing how old species gradually evolve into new ones, or else they would die out, like the large mammals that Darwin had chiseled out of the stone in Patagonia. In his thoughts, he slowly came closer to the question of the origin of humans. At the London Zoo he studied the latest attraction, a female orangutan called Jenny. In her face he recognised traits that babies also have. "Man from monkey?" he asked himself in his notes.

### **Idea of natural selection**

Now the young researcher stood on the threshold of heresy. While he made

preparations for his wedding, Darwin also looked for the mechanisms through which species underwent change. One evening he came across the bleak book *An Essay on the Principle of Population* written by the British economist Thomas Robert Malthus (1766 to 1834). In it, Malthus showed why the population was destined to explode in the course of a few years unless checked by hunger catastrophes or epidemics.

His calculations were simple: Whereas the sources of food followed an arithmetic progression (1, 2, 3, ...), the rate of propagation followed a geometric one (1, 2, 4, 8, 16, 32, ...). "Hence, it can be claimed with certainty that the population will double every 25 years unless controlled", Malthus concluded. Darwin immediately drew parallels in the natural world: "Every species must have the same number killed year (after) year by hawks and cold and other reasons, even one species of hawk decreasing in number must affect instantaneously all of the rest.... One may say there is a force like a hundred thousand wedges trying (to) force every kind of adapted structure into the gaps in the economy of nature, or rather forming gaps by thrusting out weaker ones."

The idea of natural selection as the driving force in evolution was thus born. Accordingly, there is a relentless competition for survival going on in nature. Some individuals have an advantage because of certain characteristics they possess, which improve their chances of survival in the environment they inhabit. Hence, their chance of bearing offspring is disproportionately higher so that these characteristics can be passed on from generation to generation. The changes are no doubt too small to be observable from one generation to the immediate

next one, but as a passionate geologist, Darwin was thinking in terms of entirely different timeframes. "I now had a theory, finally, with which I could work," he wrote later. However, it was to take several years until it was published.

### **Life's work shattered**

One day in June 1858 Darwin received mail from overseas. The sender, Alfred Russel Wallace, a young and enthusiastic natural scientist who had traveled around the world at his own expense, and earned his livelihood by exporting exotic animals. Darwin had requested two years earlier the bellows (lungs) of pigeons and poultry breeds from the Malayan archipelago; since then, Wallace had been in touch with the already well known private scholar.

The package, which was collected from the Moluccan island of Ternate, however, did not contain information about Malayan bird species that Darwin had requested, but a scientific manuscript of about 20 pages. In an accompanying letter, Wallace requested that Darwin to forward the essay to Lyell for publication, if he felt it was significant enough. He hoped his ideas would contribute to filling the "missing link" in the evolution of species. As Darwin read the article, he saw his life's work "shattered": someone else had pulled ahead of him. "Wallace could not have prepared a better resume if he had my handwritten draft of 1842", he finally wrote, in an embittered missive to Lyell. Even the vocabulary was the same: Wallace, too, wrote of "variants" that had been eliminated through a "fight for survival" from their original species. Darwin's comment in response was simple and to the point: "This has destroyed all my originality."

Charles Lyell was not surprised. He had



urged Darwin time and again in the past to speed up his work, having read an article by a hitherto unheard of researcher that had appeared in a scientific journal that encompassed the essential arguments of the theory advanced by Darwin, and later even by Lyell himself. But Darwin had ignored the dangers, informing his old teacher that only an extensive tome with appropriate footnotes would be capable of convincing the public of his theory. Hesitatingly, he had revealed to a few other natural scientists his godless theory, over a period of nearly two decades: "It is as if one were confessing to a murder," he wrote to his closest confidante, the botanist Joseph Dalton Hooker.

And Wallace had even read Malthus's work. While he was confined to bed following a serious attack of malaria in Ternate, he applied the overpopulation theory of the British economist to the natural world, around 20 years after Darwin had done the same. Now, was a rank outsider going to steal the well deserved laurels from the famous natural scientist Charles Darwin?

Together with Hooker, Lyell hatched a plan that was to go down in the history of biology as a "delicate arrangement". Yes, they would publish Wallace's manuscript, but only along with two extracts from Darwin's work which would precede the article, so that their priority would be recognizable. Charles Darwin, who was mourning the death of a son, consented. "I will do everything I am told to do." And even Wallace consented to it after his return. "Wallace never criticized this arrangement and acknowledged Darwin's priority," according to science historian John van Wyhe. "He acknowledged without envy that he

could never have documented the evidence of the mechanisms of evolution so well."

At a meeting of the Linnaean Society of London on July 1, 1858, both works were read without receiving much attention. The society's annual report noted that the year 1858 had drawn to an end "without any discoveries that could revolutionize the research disciplines". Now out in the open, Darwin did not want to lose any time. He completed his work in haste. The day on which the work *On the Origin of Species by Means of Natural Selection or the Preservation of Favored Races in the Struggle for Life* was published, November 24, 1859, started a new epoch in biology. This time, the response was overwhelming: all 1,250 copies of the book were sold out on the very first day of its appearance.

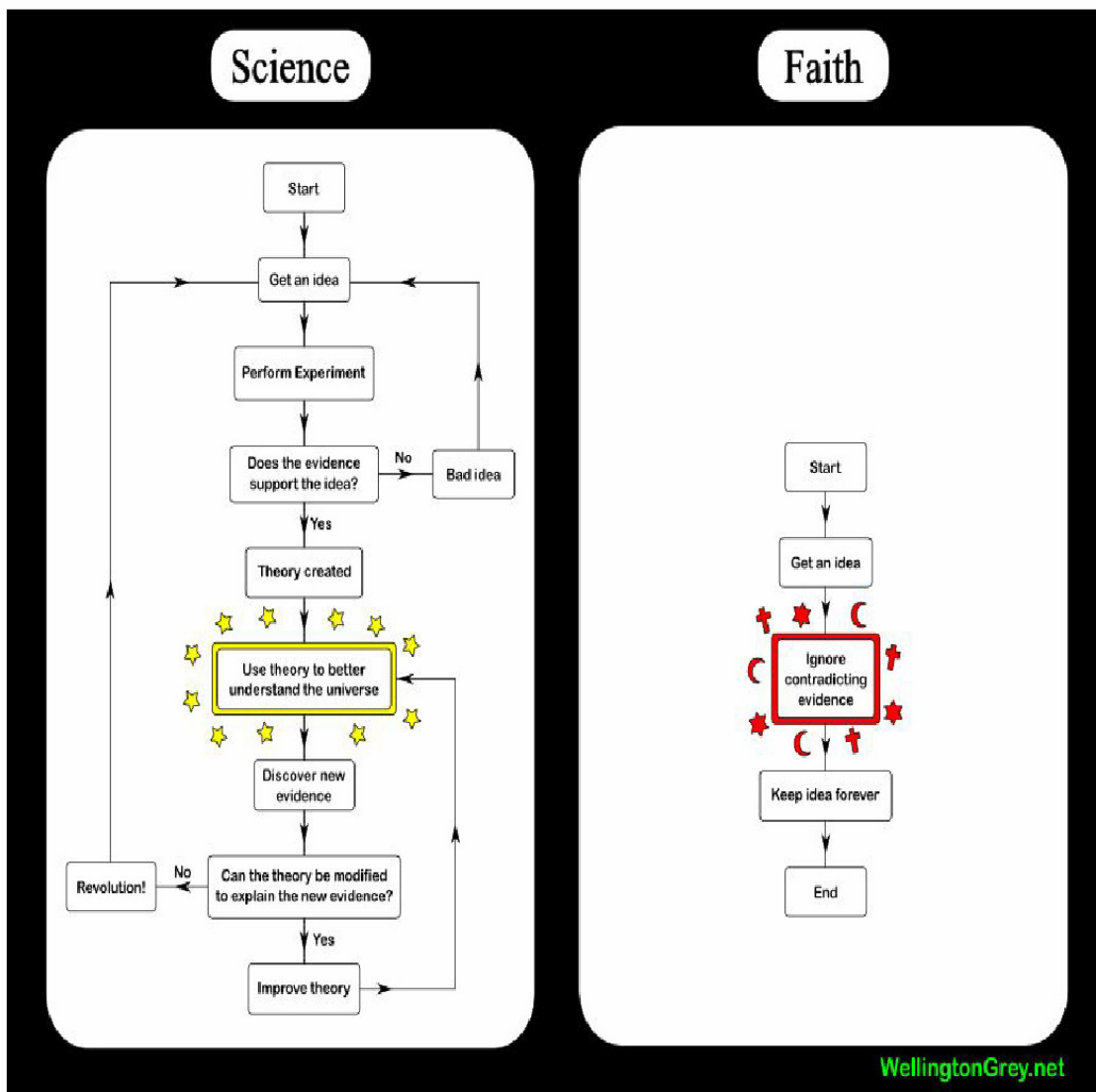
Under the chairmanship of Henslow, there was confrontation between supporters and opponents on June 30, 1860, at the meeting of the British Association for the Advancement of Science in Oxford. Darwin himself was ill and could not attend. Nevertheless, the proceedings were heated. When Bishop Samuel Wilberforce asked if Darwin's close friend Thomas Henry Huxley had descended from the apes on his grandfather's side or his grandmother's side, he replied: "Had the question been addressed to me, whether I would rather have a miserable ape for a grandfather or a man highly talented by nature and with great influence and importance, but who uses his skills and influence merely for the purpose of bringing in ludicrousness into a serious scientific discussion, then I would without hesitation confirm my preference for the ape."

Captain Fitzroy burst in on the commotion: Clad in military uniform and holding up a Bible, the former commander of the *Beagle* swore in the presence of all that he believed more in God than in human beings. The book published by his travel companion of yore had apparently caused him a lot of pain.

It was not until 1871 that Darwin commented on *The Descent of Man*, on the origins of our own species. Eleven

years later, he died in his country home near London. Until the very end, his wife Emma, with whom he had been married happily for 43 years, had watched by his bedside. Darwin's ideas were to survive, his much quoted prophecy, which was the only place in the *On the Origin of Species* to give any insight into his own view on whether the "ape question," was to become true. It is said there: "Light will fall on the origin of man and his history."

Christoph Marty



An Official Journal of Maharashtra Andhashraddha Nirmoolan Samitee, India

# THOUGHT & ACTION

Committed to Build



Rationalist Society

Issue 2

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## Jul - Sep 2009

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## Why should I Respect these Oppressive Religions

*Mr. Johann Hari's article was first published in The Independent and later reprinted in the Indian newspaper The Statesman. Following the reprinting, the editor and publisher of the Kolkata-based news daily have been charged under section 295A of the Indian penal code with "deliberate and malicious acts intended to outrage religious feelings". Mr. Hari has been told that he will be arrested if he lands in India. Sections of Kolkata have seen the tide of (Muslim) religious fury rise over the last week, leading to the action by the government to curb free-speech. We cannot ignore such intimidation by communal elements in our country. We are reprinting the original article with permission from Mr Hari, in solidarity with him and with The Statesman. Their attempts to shut us down will only increase our resolve. Let us all reprint this story on blogs and forums, till it cannot be ignored and religious oppression is seen in its true form as abuse of our elementary rights.*

The right to criticize religion is being slowly doused in acid. Across the world, the small, incremental gains made by secularism - giving us the space to doubt and question and make up our own minds - are being beaten back by belligerent demands that we "respect" religion. A historic marker has just been passed, showing how far we have been shoved. The UN rapporteur who is supposed to be the global guardian of free speech has had his job rewritten - to put him on the side of the religious censors.

The Universal Declaration of Human Rights stated 60 years ago that "a world in which human beings shall enjoy freedom of speech and belief is the highest aspiration of the common people". It was a Magna Carta for mankind - and loathed by every human rights abuser on earth. Today, the Chinese dictatorship calls it "Western", Robert Mugabe calls it "colonialist", and Dick Cheney calls it "outdated". The countries of the world have chronically failed to meet it - but the document has been held up by the United Nations as the ultimate standard against which to check ourselves; until now.

Starting in 1999, a coalition of Islamist tyrants, led by Saudi Arabia, demanded the rules be rewritten. The demand for everyone to be able to think and speak freely failed to "respect" the "unique sensitivities" of the religious, they decided - so they issued an alternative Islamic Declaration of Human Rights. It insisted that you can only speak within "the limits set by the Shariah [law]. It is not permitted to spread falsehood or disseminate that which involves encouraging abomination or forsaking the Islamic community". In other words, you can say anything you like, as long as it precisely what the reactionary mullahs tell you to say. The declaration makes it clear there is no equality for women, gays, non-Muslims, or apostates. It has been backed by the Vatican and a bevy of Christian fundamentalists.

Incredibly, they are succeeding. The UN's Rapporteur on Human Rights has always been tasked with exposing and shaming those who prevent free speech - including the religious. But the Pakistani delegate recently demanded that his job description be changed so he can seek out and condemn "abuses of free expression" including "defamation of religions and prophets". The council agreed - so the job has been turned on its head. Instead of condemning the people who wanted to

murder Salman Rushdie, they will be condemning Salman Rushdie himself.

Anything which can be deemed “religious” is no longer allowed to be a subject of discussion at the UN - and almost everything is deemed religious. Roy Brown of the International Humanist and Ethical Union has tried to raise topics like the stoning of women accused of adultery or child marriage. The Egyptian delegate stood up to announce discussion of Shariah “will not happen” and “Islam will not be crucified in this council” - and Brown was ordered to be silent. Of course, the first victims of locking down free speech about Islam with the imprimatur of the UN are ordinary Muslims.

Here is a random smattering of events that have taken place in the past week in countries that demanded this change. In Nigeria, divorced women are routinely thrown out of their homes and left destitute, unable to see their children, so a large group of them wanted to stage a protest - but the Shariah police declared it was “un-Islamic” and the marchers would be beaten and whipped. In Saudi Arabia, the country’s most senior government-approved cleric said it was perfectly acceptable for old men to marry 10-year-old girls, and those who disagree should be silenced. In Egypt, a 27-year-old Muslim blogger Abdel Rahman was seized, jailed and tortured for arguing for a reformed Islam that does not enforce Shariah.

To the people who demand respect for Muslim culture, I ask: which Muslim culture? those women’s? those children’s?, this blogger’s? - or their oppressors’?

As the secular campaigner Austin Darcy puts it: “The ultimate aim of this effort is not to protect the feelings of Muslims, but to protect illiberal Islamic states from charges of human rights abuse, and to silence the voices of internal dissidents calling for more secular government and freedom.” Those of us who passionately support the UN should be the most outraged by this.

Underpinning these “reforms” is a notion seeping even into democratic societies - which atheism and doubt are akin to racism. Today, whenever a religious belief is criticised, its adherents immediately claim they are the victims of “prejudice” - and their outrage is increasingly being backed by laws. All people deserve respect, but not all ideas do. I don’t respect the idea that a man was born of a virgin, walked on water and rose from the dead. I don’t respect the idea that we should follow a “Prophet” who at the age of 53 had sex with a nine-year old girl, and ordered the murder of whole villages of Jews because they wouldn’t follow him. I don’t respect the idea that the West Bank was handed to Jews by God and the Palestinians should be bombed or bullied into surrendering it. I don’t respect the idea that we may have lived before as goats, and could live again as woodlice. This is not because of “prejudice” or “ignorance”, but because there is no evidence for these claims. They belong to the childhood of our species, and will in time look as preposterous as believing in Zeus or Thor or Baal.

When you demand “respect”, you are demanding we lie to you. I have too much real respect for you as a human being to engage in that charade. But why are religious sensitivities so much more likely to provoke demands for censorship than, say, political sensitivities? The answer lies in the nature of faith. If my views are challenged I can, in the end, check them against reality. If you deregulate markets, will they collapse? If you increase carbon dioxide emissions, does the climate



become destabilized? If my views are wrong, I can correct them; if they are right, I am soothed.

But when the religious are challenged, there is no evidence for them to consult. By definition, if you have faith, you are choosing to believe in the absence of evidence. Nobody has “faith” that fire hurts, or Australia exists; they know it, based on proof. But it is psychologically painful to be confronted with the fact that your core beliefs are based on thin air, or on the empty shells of revelation or contorted parodies of reason. It’s easier to demand the source of the pesky doubt be silenced. But a free society cannot be structured to soothe the hardcore faithful. It is based on a deal. You have an absolute right to voice your beliefs - but the price is that I too have a right to respond as I wish. Neither of us can set aside the rules and demand to be protected from offence.

Yet this idea - at the heart of the Universal Declaration - is being lost. To the right, it thwacks into apologists for religious censorship; to the left, it dissolves in multiculturalism. The hijacking of the UN Special Rapporteur by religious fanatics should jolt us into rescuing the simple, battered idea disintegrating in the middle: the equal, indivisible human right to speak freely.

Johann Hari

### **A Statistical Test of Astrology**

*This paper describes a recent test conducted in Maharashtra to test the predictive power of natal astrology. It involved collecting 200 birth details of 100 bright school students (group A) and 100 mentally retarded school students (group B). These details were used to cast horoscopes or birth charts for these children. After recording these details the charts were mixed and randomized and astrologers were invited to participate in a test of their predictive ability. Fifty-one astrologers participated in the test. Each participant was sent a random set of 40 birth charts and asked to identify to which group each chart corresponded. Among the initial 51 participants, 27 sent back their assessment. Statistical analysis of the results showed a success rate marginally less than what would be achieved by tossing a coin. The full sample of 200 birth charts was given to the representatives of an astrology institute for identification. They also did not fare any better. The limited but unambiguous procedure of this test leaves no doubt that astrology does not have any predictive power as far as academic ability is concerned. Ways of extending the scope of this test are discussed for future experiments.*

In the popular mind astrology is often confused with astronomy. Since both subjects talk about stars, constellations, planets and the sun and the moon, it is usually assumed that both are branches of science dealing with the cosmos. An example of this was the announcement by the University Grants Commission in 2001, that a subject called ‘Vedic astrology’ should be introduced in the science stream of the university syllabus.

Is astrology a science? A closer examination suggests that the answer to this question is ‘no’. A subject claiming to be part of science needs to satisfy certain minimum criteria. First, it should be based on postulates or assumptions that are clearly defined and are unique so far as the practitioners of the subject are concerned. Secondly, from these postulates the subject should come up with testable and disprovable deductions that do not depend on who make them. Finally, there should be tests for

deciding whether a particular deduction is validated or disproved

Astrology, when subjected to these conditions, has always been found to be wanting. The basic tenets of the subject show considerable variation, such as the way a horoscope is to be cast. Even with a given horoscope two astrologers may differ in their interpretation or prediction. Finally, often the predictions are vague and not disprovable.

Nevertheless, in the West, tests have been conducted of astrological predictions, to the extent that they can be tied down to definitive statements. We mention two examples which will illustrate how one may proceed. The first relates to the belief (common in India) that unless the horoscopes of an eligible boy and girl match astrologically, they should not marry.

Bernie Silverman, a graduate student from the Michigan State University, USA, had the following experiment as part of his Ph D thesis (received in 1971). His study picked out (A) 2978 couples who were happily married and (B) 478 couples who were divorced or separated. Their horoscopes were cast and given to two astrologers who were asked to agree between themselves as to whether the horoscopes belonging to a couple matched or not. The astrologers were not told to what class (A or B) each pair belonged. Accordingly, they made the classification using the astrological criteria they mutually agreed upon. Their classification was then compared with reality by applying statistical tests. These tests showed that there was no significant overlap between the two classifications. Thus astrological compatibility of horoscopes did not correspond to compatibility in real life. Details of this study have been published elsewhere.

A double-blind approach was used in our second example of a test of astrology. Carlson used birth charts to test the astrological claim that the positions of the 'planets' (as assumed in astrology) at the moment of birth can be used to determine the subject's general personality traits and tendencies in temperament and behaviour, and to indicate the major issues the subject is likely to encounter. In this test astrologers were invited to make such interpretations for the birth charts of all the persons chosen for the study. Each person was given three such interpretations: the first being based on his/her real birth chart and two others chosen at random from this collection. The person was asked to rank them with marks out of ten depending on how accurate they were regarding their own self-assessment. A variation in this technique using California Personality Inventory (CPI) for the person was used instead in a second associated test. Here, the participating astrologers were each given a birth chart and three CPIs. One CPI corresponded to the birth chart given, while two others were randomly drawn from the sample. The astrologers were asked to rank the three CPIs according to how well they described the person with that birth chart.

If there is no correlation between the birth chart and personality, then, in the first experiment, one-third of the actual interpretations should be chosen as number 1. The astrologers claimed that if they are right at least half the actual interpretations should be correct. The experimenters allowed a  $2.5\sigma$  variation above the chance expectation: anything higher would support the astrological hypothesis. A double-blind procedure was used so that neither the

participant nor the experimenter knew what they were looking at. All details of birth charts vis-à-vis the persons they corresponded to were coded. Details are given in the paper referred to above. We simply state that in the first analysis the correct interpretation was obtained with probability of 0.337 and with an error 0.052, very close to the chance value of 1/3.

With this background we now come to our experiment.

### **Pune Experiment**

While designing a suitable test we were conscious of the need that the outcome has to be beyond any ambiguity of interpretation. Thus in the Carlson experiment one could say that reading a person's personality may not be clear-cut. Indeed, as it was discovered in the course of the Carlson experiment, the CPI may not be recognized by the person to whom it belonged. The Silverman method of marriage compatibility is better, except that in the Indian context the rate of broken marriages is still rather low and collecting a large enough sample may pose difficulties. We will return to this point at the end of this paper.

For our experiments we chose a different but clear criterion, namely whether a person is intellectually bright or mentally handicapped. Astrologers claim to be able to tell this difference from the person's horoscope. So from amongst school children we collected a sample of 200 cases, with 100 each belonging to the above two classes. The intellectually bright children constituting group A were known from their school records as certified by their teachers. The mentally retarded children making up group B came from special schools for such children. Certified information from the parents about the birth details of their wards, necessary for casting their horoscopes was obtained. This field work was done by the volunteers of the Andhashraddha Nirmulan Samiti, Satara.

The next job was to cast their horoscopes. This was done using standard software by one of us (PG) who possessed enough experience in astrology, having been a practising astrologer a few years back.

The data were then codified with a code number assigned to each case. By deciphering the code number the concerned case could be fully identified; other-wise it remained an unknown entity. This was therefore a double-blind procedure since neither the experimenter nor the participant of the experiment could identify the case from the code number only. The data thus obtained and codified were stored in safe custody with the Statistics Department, Pune University.

Meanwhile, through public announcements and a press conference in Pune on 12 May 2008, practising astrologers were invited to participate in the experiment, the procedure for which was also explained. Of the 200 cases in our sample, each participant would be given a randomly drawn set of 40 birth charts along with the birth records. The participants had then a stipulated time limit by which they would have to identify each case as belonging to group (A) or (B), and send us their conclusions. For the initial set, the participants were asked to send a stamped registered envelope. Additionally, we also invited established astrological organizations to participate as institutions. In such cases we offered to make the entire sample of 200 cases

available.

The nature of the statistical test is simple. We have two hypotheses to compare. The chance hypothesis  $H_0$  is that the selection between groups A and B is like tossing a coin with probability 0.5 attached to each mode. The alternative hypothesis  $H_1$  is that the classification using astrological prediction has success probability more than 0.5. For such a testing hypothesis problem, in order to reject  $H_0$  in favour of  $H_1$ , the success rate has to exceed the mean expectation on the basis of  $H_0$  by an amount equivalent to  $2.32\sigma$ . This procedure ensures that the probability of wrongly rejecting  $H_0$  is not more than 1%. For a binomial distribution with success probability  $P = 0.5$ , the mean for a sample size  $N$  is  $0.5N$  and  $\sigma = (N/4)^{1/2}$ . For a sample size  $N = 40$ , we get the mean as 20 and  $\sigma = 3.16$ ; so  $2.32\sigma = 7.3$ . In short, for our typical sample size the success rate of the astrologers to reject  $H_0$  had to be at least 28. In the institutional case, the corresponding figures were mean = 100 and the required success rate for  $H_1$  to hold was 117 or more.

### **Response of the Astrologers**

When this framework was announced, the response of the astrologers was varied. Some agreed to take up the challenge, others asked for additional conditions which had no relevance to the nature of the test being conducted, while some called upon the astrological community to boycott the test. We met several astrologers individually and also participated in a seminar where we explained the nature of the test, its objective and the precautions we were taking to pre-vent any rigging. We also pointed out that if the astrologers wished to claim that their subject was a science, then they need to face such tests. While on the whole the response was positive, some leading astrologers distanced themselves from the test.

In the end, 51 astrologers sent stamped envelopes as asked for and the sets were sent to them. Only 27 replied, sending their answers. These were then examined in the light of the data. The best performance was 24 out of 40, achieved by one astrologer only and this fell below the stipulated minimum for  $H_0$  to be rejected in favour of  $H_1$ . The overall average success per sample for all 27 participants was 17.25, less than but consistent with the average of 20 predicted by  $H_0$ . So far as institutional participation was concerned, two organizations had agreed to participate. Eventually only one responded with answers. Its success rate was 102 out of 200, again well below the stipulated minimum of 117.

Thus we find on the basis of this test that the predictions given by the astrologers did not fare better than pure chance toss of a coin.

### **Concluding Remarks**

We feel that our test asked a well-focused question and the astrologers could not point to any ambiguity of interpretation. Many astrologers looked upon the success they had achieved (even though at a rate less than 50% expected by tossing a coin) as a testimonial to their predictive ability. We had to explain to them that real predictive success could be claimed only at 70% level for their sample size.

The test clearly demonstrated the hollowness of the basic claim of astrology as stated

earlier. Diehard believers, of course, would not change their mind. However, it would be worthwhile conducting a similar double-blind test to check other aspects of astrological predictions. One important aspect has been the one tested by Silverman. Since a large fraction of marriages is arranged (or forbidden) on the basis of matching of horoscopes, a statistical study of this aspect will be useful. There may be several difficulties in gathering these data, but the effort would be well worth it.

**Jayant V. Narlikar, Sudhakar Kunte,  
Narendra Dabholkar and Prakash Ghatpande**  
*Courtesy: Current Science (10 March 2009 Issue)*

### **First Editorial of 'REASON' (July 1931)**

*The REASON magazine was published in the years 1931 to 1942 by Rationalist Association of India. Raghunath Dhondo Karve, a great social reformer of his time was the editor of this monthly magazine. He also used to edit and publish a Marathi monthly 'Samaj Swasthya', a magazine dedicated to sex education. In fact, he has to face wrath of both the public as well as rulers for such a feat and has to face judicial inquiries for his writings.*

*The editorial reproduced below is an eye opener to all of us, since every word and context is still relevant even after 78 years. You may replace the words 'Rationalist Association of India' to 'Andhashraddha Nirmoolan Samiti' and still whole text is valid.*

Reason is the organ of the Rationalist Association of India. The object and the aims of the Rationalist Association of India may briefly described as follows:

- To combat the superstitious beliefs and practices of the masses in this country and rescue them from the baneful influence of priest-craft.
- To encourage people to educate themselves so as to cultivate a scientific habit of mind or at any rate an inquiring habit so that nothing should be accepted which cannot stand the test of Reason and common sense.
- To reject all arbitrary authorities in matters of belief however hoary and venerable they may appear.

No well informed and intelligent person can deny the pernicious influence of priest-craft or the destiny of mankind. Priest-craft has ruined and destroyed empires and kingdoms. People under its sway have been degenerated and have fallen below the culture of a progressive civilization. One has only to read history carefully to realize this. It has retarded the progress of civilization wherever it has existed and done much to create misunderstanding among nations. If Christianity, for instance, had still its sweet will as it unfortunately had for centuries, Europe would still in a state of barbarism. That continent owes its civilization to the bold and fearless thinkers and investigators who braved the penalties imposed by religion on any who dared to contradict the



teachings of the church. It was dangerous for any one to pry into the secrets of Nature and the penalty was death. Despite the mighty power of the Church to discourage thinking and investigation, Europe progressed towards civilization in proportion as the influence of religion was decreased in those countries that were fortunate enough to possess intelligent men who were so brave as to defy anathemas of the Church. On the other hand, those countries which were too deeply sunk in the erroneous teachings of the Church produced bigots and fanatics who eventually ruined them – e.g. Spain and Portugal. Russia owes a good deal of its present political tribulations to the ignorance of its people caused by an ignorant and corrupted clergy.

We have another remarkable instance of enlightened and cultured people who sank into ignorance, superstition and fanaticism in the case of the Arabs as soon as they took their religion too seriously. In their case, an erroneous idea that a religion must over-shadow all the other activities turned their minds into chimerical channels in the result that today Arabia is describes as the “land of darkness and ignorance”. Persia is no better and one can cite other such countries where an ignorant and fanatical priesthood has succeeded in completely deteriorating the intellectual progress of their inhabitants. In the case of the Arabs, or Saracens, as they were known to Europe, one has only to recall that in the early days of Islamism before they were obsessed by an erroneous idea that worldly culture was unnecessary and sinful, they were the pioneers of civilization and scientific culture. In fact they saved Europe from the awful darkness in which it had sunk, thanks to the bigoted and fanatical priesthood which reigned supreme over a besotted continent.

Here in India the position is even more remarkable. This country rightly boasts of a very ancient civilization. Any unbiased observer is, however, bound to admit that that civilization became arrested long, long ago. It is not difficult to trace the hand of priest-craft in this retrograde movement. It has made India home of superstition and mysticism. It has encouraged an irrational conservatism which is harmful in every aspect. It has encouraged ignorance, intolerance, fatalism, communalism and the grossest superstitions. It has made the people live in an unreal world – world of sprites, spooks and ugly phantoms. Even today the real cause of disharmony, suspicion and mistrust among people is to be found in differences of religions and beliefs.

It is the conviction of the Rationalist Association of India that no real progress is possible in this country, no permanent understanding and good will among the people of different creeds and castes can be arrives at, no solid rapprochement in a political as well as social sense is possible until the people are sufficiently enlightened on religious questions to treat these matters in a rational manner. We appeal to all well wishers of India to help and encourage the Rationalist Association of India. It has difficult and noble task to perform.

**R.D. Karve**

## **The Shackles of Superstitions**

How often do we read in the newspapers of 'Child sacrificed to help woman conceive', or 'Human being sacrificed to help man find treasure'? How many of us know that the stories that make it to the newspapers are just the most gruesome ones? How many of us know if the culprits are penalised for murder, or at least culpable homicide? Besides these, there are numerous cases where people are deceived by men (or women) claiming to possess magical powers. While a criminal act (like murder or theft) can be punished, there is a lacuna in prosecuting those who make false spiritual claims and thereby derive mileage. It is to overcome this shortcoming that the Maharashtra government is moving to introduce an anti-superstition law. Currently the bill, the first of its kind anywhere in India, is with the central government. Once it is cleared by the Centre, it will be tabled in the state legislature.

The organisation behind this bill is the Maharashtra Andhashraddha Nirmulan Samiti, or the Maharashtra Superstition Eradication Committee, led by Dr Narendra Dabholkar, based in Satara, western Maharashtra. This organisation has been demanding such a law for 14 years now. In response, legislator P G Dasturkar had introduced a private member's bill against superstition in the Vidhan Parishad (the legislative council, upper house of the bicameral Maharashtra legislature), in 1995.

Dr. Dabholkar pointed out that it has taken the Maharashtra government eight long years to move the bill to its present stage, for scrutiny by the central government. While he hopes the bill will be passed in the winter session of the state legislature next month, a source in Mantralaya (the seat of the Maharashtra government) said it was doubtful if the Centre would clear the bill so soon.

The source explained that parts of the bill involve aspects of the Indian Penal Code and the Criminal Procedure Code, all of which require central government clearance. The Centre is examining the bill to see if any of its provisions clash with existing laws and, if so, to iron out the differences. Such a process takes time, which is why it will be a few months before the bill is sent back to Maharashtra for the state government to table in the legislature.

Dr. Dabholkar, however, is confident that once tabled the bill will muster support. "This bill has the support of the legislators; it has cut across party lines," he said. "Over the years, I have met different leaders [from various political parties] and all have promised their support. So passing the bill in the Maharashtra house will not be difficult."

### **Defining belief**

The difficulty, actually, is in defining 'superstition' or, rather, distinguishing 'blind faith' from 'faith'. The dividing line is thin, often blurred. Dabholkar acknowledged this and said that to overcome this difficulty, his organisation had listed 25 or so specific acts that should be listed as punishable.

"The key point is that we are not against any belief or superstition; we are against the use of such superstition or belief to cheat people," he explained. So far, he said, the Indian Penal Code

lacked any section that punished people for cheating in the name of belief. The new bill will plug this loophole.

Additional Chief Secretary Suresh Kumar from the social justice ministry of the Government of Maharashtra, under whose purview the anti-superstition bill falls, said it will be called the *Jadu Tona* (Magical Powers) and Similar Anti-Superstition Opposition Bill.

"How does one define *andha shraddha* [blind faith]?" asked Suresh Kumar. "It is very difficult, because one man's faith is another man's blind faith or superstition."

Nothing proves this more than the recent controversy involving Union Minister of State for Human Resources Sanjay Paswan, who participated in shaman rites in Bihar, including walking on burning coals. When grilled by journalists, an angry Paswan asked how his belief was different from that of people who flocked to the likes of Sri Sri Ravi Shankar or Mata Amritanandamayi in search of solace!

Over the years, questions have also been raised about Satya Sai Baba, who commands a cult following numbering millions, but who, his critics say, pulls off simple tricks to claim supernatural powers.

Paswan even tried to give the controversy a caste twist by claiming that what the dalits and lower castes believe in is termed blind faith whereas what the upper castes believe in is considered faith.

In order to tackle this very delicate question, the anti-superstition bill will not define superstition (or blind faith). Instead, it will list some 30 specific acts involving deceit and fraud that will qualify as superstition and specify that the person carrying out these acts can be jailed.

"If we try to make the bill too all-encompassing, then it will never get passed in the assembly where so many believers of so many godmen exist," explained Dabholkar. "So, rather than say this or that constitutes blind faith, what we are aiming to say is that to cheat someone by claiming supernatural powers is an act of superstition that is punishable by law."

Former professor Prabha Purohit, a member of the Maharashtra Andhashraddha Nirmlan Samiti, has an easier definition. "To provide [religious] solace is an act of faith, but to do so for monetary gains is deceit," she said.

Yet, even on the question of monetary gains, the bill will have to tread carefully. Perhaps the best example is astrology. In India, little is done without consulting an astrologer: marriages, caesarean births (a famous industrialist had doctors perform a caesarean operation on his wife on the high seas, so that his child would be born at the perfect location at the most auspicious time and its stars would be just perfect!). Politicians are notorious for their faith in astrology: Cabinet expansions, swearing-ins, all are decided in consultation with an astrologer.

Dabholkar acknowledged the hold astrology has on Indians when he said that if the bill had listed astrology as an act of superstition punishable by law, chances were the legislature would never pass it. "Let us do what we can today and make progress slowly," he said.

Additional Chief Secretary Kumar said the bill will ask the State to promote a scientific temperament (as spelt out in the Constitution's Directive Principles) and a committee will be set

up to ensure that the fight against superstition is making progress.

He pointed out that the bill became necessary when the state found it difficult to prosecute charlatans for religious fraud. "We could prosecute them under various provisions of the Indian Penal Code for cheating, fraudulent activity, theft, etc, but there is nothing saying that making false claims is a punishable offence," he pointed out.

The Maharashtra Andhashraddha Nirmulan Samiti has handled many such cases of fraudulent claims; the details are published in its monthly, Andhashraddha Nirmulan Vartapatra. One such case involved a Vani Baba who claimed that he could use supernatural powers to find buried idols. When members of the Committee confronted him, he confessed that he would bury the idols himself before 'finding' them.

Hopefully, the next time someone claims he has magical powers, you can not only challenge him but also jail him.

**Amberish K Diwanji**

### **Freedom's Foghorn**

"It is the business of little minds to shrink", wrote Thomas Paine in the famous first issue of his pamphlet sequence The American Crisis, "but he whose heart is firm, and whose conscience approves his conduct, will pursue his principles unto death. My own line of reasoning is to myself as straight and clear as a ray of light." True to his word, the great man died peacefully two hundred years ago this June in Greenwich Village, New York, aged 72, having led a life that saw him teeter often on the verge of financial, political and physical ruination for the sake of dedicating his prodigious abilities to the ideals of democracy, equality, republicanism and free thought.

A self-educated drifter from rural England, Paine had achieved little of note when he set sail, aged 37, for a new start in America. By his mid-forties, however, he could boast of having done what few can. At an age when most men tend to settle into stability and comfort, Paine stood up, struck out and changed the world. In the course of doing so, he became many things: poet, debater, proto-trade unionist, anti-slavery campaigner, revolutionary soldier, journalist, preacher, politician, economist, philosopher, prisoner, Biblical scholar, co-founder of the National Bank of America, Secretary for Foreign Affairs to the American Congress, representative for Calais in the French National Convention and, as he is best remembered, the inventor of modern democratic prose.

Paine glided into each of these roles with a cavalier ease, seemingly only questioning his purposes and abilities in his darkest moments - and even then only fleetingly. If the American Revolution had been smouldering since 1763, when King George, seeking to restrict the expansionist ambitions of the Thirteen Colonies, signed the Royal Proclamation, Paine, arriving from England in the winter of 1774, hurled a fistful of incendiary upon it of a strength and volatility that no one else had been able to muster. With the mass distribution of his legendary pamphlet Common Sense, the world was reborn. "I have the honest pride of thinking and ranking

myself among the founders of a new Independent World," he told the American Minister of Finance, Robert Morris, in a moment of classic Paine immodesty.

The world had, of course, been waiting to be reborn. But Paine, possessed by his conviction that his was the voice not only of independence and national confidence but of universal freedom, spurred America to decide the moment of its own birth, to declare itself to be not only a nation but, in Paine's words, the "cause of all mankind". Amidst an atmosphere of uncertainty, terror and physical suffering, Paine took the morale of America in his hands, and made a profound contribution to its moral formation that is often overlooked today, just as it was all but dismissed by the fledgling American government in his own lifetime.

Neglect at the hands of the nation for whom he had very nearly sacrificed everything threw him into a brief depression in the late 1770s, but his self-confidence never faltered for long. Within a few years of the establishment of independence, Paine, who first cut the mould of the international revolutionary in which figures such as Leon Trotsky and Che Guevara would fashion themselves, had already begun to look to another continent for a new cause upon which to exercise his brilliance, admitting to his friend Henry Laurens that "it was neither the place nor the people [of America] but the Cause itself that irresistibly engaged me in its support."

Arriving in France in April 1791, where he anticipated the American Revolution was about to repeat itself (and that his role in it would be a suitably plum, historic one), Paine displayed his old self-certitude again, in full force and visible to all. To his supreme gratification, *Rights of Man* was creating a sensation in England and France, selling 50,000 copies in its first month, and going through various editions, some of them distributed by Paine himself at his own expense. The American ambassador to France, Gouverneur Morris, described him as "inflated to the eyes and big with a litter of revolutions". One of his hosts, Étienne Dumont, spoke of his "egregious conceit and presumptuous self-sufficiency... He was drunk with vanity. If you believed him, it was he who had done everything in America... He told us roundly that, if it were in his power to annihilate every library in existence, he would do so without hesitation in order to eradicate the errors they contained, and commence with *Rights of Man* a new era."

Indeed, no subject was too great for Paine's intellectual and moral certitude, and in his later years he turned his mind towards yet another conflict of universal import, that between religion and common sense, performing with his *Age of Reason* (1794) a critique of the Christian faith that still startles today by virtue of its clarity, rationality and human and scientific emphasis, as well as its unabashed pithiness.

If many have seen his pugnacious personality and self-aggrandizing tendency as disturbing anomalies in a great man, it's worth asking whether Paine could have been what he was without the attitude to himself and his place in the world that occasionally led him into self-absorption and folly. Like many great men, he didn't just tread a fine line between bluster and brilliance - there was no line there at all. Thomas Paine stands forth two hundred years after his death as an icon of freedom precisely because his prose exudes a confidence and somewhat brash gamesomeness that inspire the common man to value his natural common sense as equal to - or

indeed greater than - that of the self-appointed gatekeepers of power and truth, whose infallibility, Paine insisted, by necessity blinds them to the common good.

As such, Paine, with the spirit of self-certitude that permeated his thought and his actions, is an immensely inspiring figure for today's secular rationalist. All of his writings constitute the most effective kind of critique of the spirit of authority and assertion that constitutes organized religion and has driven the bitter attacks launched upon free thought that have characterized the religious backlash against the New Atheists in recent years.

Among the charges pressed against this group - Christopher Hitchens, Richard Dawkins, Daniel Dennett, Sam Harris - is that of a combination of ignorance and arrogance, of much the same tenor as those leveled against Paine in his day. The New Atheists, it is argued by sophisticates like Terry Eagleton, John Gray and Madeleine Bunting, are vulgar and uncouth; they aren't well-versed enough in theological traditions to make true judgments on the nature of faith and the question of God's existence; they take, it is alleged, the claims of the faithful too literally, while remaining too conceited, cocksure and self-absorbed to grasp what is really meant by "God".

Paine's approach, of course, was not that of the atheist, but that of the deist who finds his creator-god embarrassed by that "history of the grossest vices, and . . . collection of the most paltry and contemptible tales" known as the Bible. He hoped for "happiness beyond this life", but wished to keep his faith untainted by prescriptive systems that claim to know infinitely more than they ever could, while insisting on the literal truth of those claims and adherence to the immolating doctrines that arise from them.

Paine demonstrated that to take the claims of religion in the spirit in which they were made, and not to be cowed by theological mystification, was every man's right, if not his obligation. This approach remains vital today because at the very root of the dispute between the faithful and the New Atheists is the fact that no matter what one's argument for faith, behind all convoluted theological "reasoning" a literal statement is always asserted - that a God exists whose purposes bear consequences for us, and that we should behave accordingly.

What the backslashers are essentially saying is that the New Atheists cannot comment on questions of faith because they are not initiated into the arcane "study or science which treats of God, His nature and attributes, and His relations with man and the universe" (the OED definition). Boiled down slightly, we are left with the sinister claim of "We know and you do not", an attitude that outraged Paine's powerful democratic instincts.

Let us atheists and humanists, then, take a leaf from Paine's great book, and stand firm in the confidence that the burden of proof lies with those who would make the most fantastic claims to knowledge of things unseen. This 8 June, raise a glass to old Tom, a steadfast ego in a world cowed by the pomp and pretension of the faithful and the powerful, and be grateful for his intellectual descendants and the perfectly justified self-certitude they bring to the most crucial debate of our times.



**Roger Davidson**

## **Disproving Existence of Soul**

The theory that the 'Soul' is the energy which enters human body when the sperm fertilizes the ovum and goes out of body when one dies can be disproved on following scientific basis:-

1. Out of 6 to 12 million sperms in 1 cc of semen, only one sperm fertilizes the ovum and how is that the 'Soul' enters only in that particular sperm? If there are as many Souls as the number of sperms then what happens to the millions of souls not utilized in the process of fertilization?
2. If it is taken for granted the 'Soul' enters the sperm or the ovum during fertilization and a whole body is formed, what happens in the process of 'cloning' where there is no process of fertilization at all. (Example -'Dolly' the sheep). Did Dolly live without a Soul? What happened when she died? -She never had a Soul.
3. Producing progeny is totally natural, physical, chemical and biological process. This is proved by the use of hormonal treatment to produce multiple ova in fisheries and hatcheries to increase the yield. From where the owners of these fisheries and hatcheries, get so many souls giving births to millions of fishes and hens & cocks?
4. Same principle is used in human beings in the process of 'In-Vitro-Fertilization (IVF)' to produce test tube babies. From where the experimenter, gets the Soul to produce a new life?
5. Sperms and ova can be stored for years in liquid nitrogen by cryo-preservation and fertilized at will of the person doing the experiment. Is the 'Soul' going to be introduced in the new body at the will of the experimenter?
6. It is advocated in the scriptures that 'Soul' gets the new body in its rebirth depending on the acts of the individual in which the 'Soul' dwelt in its previous birth and that body has to bear the fruits of the old deeds. Now it is proved that the characters, defects, strengths and weaknesses of any individual depend on the genes received from its parents. Using genetic science, scientists can now modify the genes, curing many incurable diseases which change the fate of the individual. Then what happens to the above theory of deeds done in previous birth?
7. Barring viruses, all living organisms consist of many cells. Except for single cell organisms like amoeba, there are millions of cells in living bodies. Human body is formed of around 1000000000000000 cells (14 zeros on 1). Every cell in our body is living, can survive individually, grow, divide or die. Does that mean that we have that much number of souls?
8. Millions Of cells in our body are dying daily and replaced by new ones. Does that mean that that much number of Souls in our body are coming in and going out of our body daily?

9. To exist, the cell does not need a 'Soul'. The function of the cell purely follows physical and chemical Laws. The cells can be grown in laboratories and these facts are demonstrated in test-tubes or Petri dishes.
10. When any living cell is cooled to 2 degree absolute temperature (-271 0c), which is possible by use of liquid Helium, the cell activity almost totally stops and it appears that the cell is almost dead, but its infrastructure, arrangement and composition remain the same. If heat is given again and cell brought to its normal temperature the cell can function as a normal living cell. For this, it does not need the energy called 'Soul' to bring it to life again. It is purely a biological and physical process.
11. The 'Soul' as I was thinking to be form of energy, does not fit in the principles of physics, and chemistry, on the contrary all our bodily functions totally obey the Laws of physics and chemistry. For example electrical impulses from brain being transmitted through nerves (insulated wires), beating of the heart with electricity generated in Sino-atrial and Sino-auricular nodes in the heart, totally obey the principles of physics and can be recorded and demonstrated using modern gadgets like Electro encephalograph (EEG) and electrocardiograph (ECG) machines. Similarly all the functions in our body can be proved on today's scientific physics and chemistry rules. None of these activities need the Soul but energy from 5 basic elements and as long as this is supplied and the infrastructure is intact we will survive.
12. Functioning of Animate and In-animate Objects- To function, any living being or machinery needs to have two things, the basic infra-structure and some sort of force or energy.
13. Take for example a clock. It has some infrastructure and either a battery or a spring (which can be wound) as source of energy. The clock stops ticking, either because its battery cell losses its entire power (or the battery is taken out) or the tension of the spring totally finishes. There is no activity when energy is not supplied, but its infrastructure remains same. If one puts a new battery cell in the clock or winds its spring, there by supplying energy to it, it starts functioning normally, provided its infrastructure is intact. But if even a small part is broken or is missing, the clock will not function unless that part is repaired or replaced.
14. Similarly if a living cell is supplied energy, may be in the form of food, glucose, water, oxygen and the similar things, it will keep on functioning till it receives the energy and its infrastructure remains intact, otherwise it will die.
15. The main difference between an in-animate object and an animate (living) object is that any living thing, either a creature or a plant, has capacity to procure its own biological energy from other natural energy sources like earth, water, light (or sun's energy), air and the atmosphere. (Pruthvi, Aap, Tej, Vayu and Akash) These are called five basic elements (Panch Mahaabhute).

16. A plant in a flower-pot will survive only if water is added to the pot daily. If we stop watering the plant, it is certainly going to die.
17. On the contrary, to function and have some activity, the in-animate object needs energy to be supplied by some external means.

### **Life and Death Phenomena**

18. Life is akin to a lamp with a wick and oil in it (Samai). Once lighted by external energy source like a match and match box, the lamp will keep on burning till oil is present in it and its wick is intact.
19. It can meet two types of ends. Its flame can be suddenly put off by a gush of air or blowing by mouth. This is like a sudden event where the oil (energy) and the wick (the infrastructure) both are intact and it can be lighted again easily by supplying spark again.
20. Other type of end is a slow one. When its energy source, i.e. oil, is withheld it will slowly burn till the oil finishes. But in this case its wick will also slowly burn out thus disturbing its architecture or infrastructure permanently, which then can never be lighted again even after putting oil, unless replaced by a fresh wick or a new 'body'.
21. The lighting and putting off the lamp does not need a soul to get in or go out of the lamp. Same is true for the human body.
22. The first kind of end is akin to sudden death of a person, may it be due to sudden cardiac arrest as happens in anesthesia. This may be due to sudden fall in Oxygen supply or due to over dose of anesthetic drugs. In this case the infrastructure, that is our body, is totally intact and one can restart the flame of life by immediately instituting the measures like external cardiac massage, giving electric shocks and artificial respiration, either done manually or using mechanical ventilator, thus supplying 'force' , 'oil' or energy from out side.
23. But if the cardiac arrest is not detected within a minute and the resuscitative measures are instituted late, then in that short time the brain-stem cells (which maintain our respiration, ventilation and other basic activities) die, and their death is permanent. In such a case because the infrastructure is damaged (the wick is burnt out or a part of the clock is damaged) no amount of supply of external energy or oxygen can help to revive the person because unlike the lamp or the clock, we cannot replace the dead brain cells by new ones! This is death of the person which is purely a mechanical, physical and biological process and not because some Soul has left the body.
24. Same is true when one meets a slow death due to a chronic disease in which many cells of different organs permanently but slowly die, and fail to function, in such situation when the heart stops it is impossible to bring life to such individual by supplying external energy, cardiac massage or giving oxygen because the infrastructure is totally disturbed.
25. Another cause of sudden death is severe head injury. In this case the architecture of the brain is damaged and the patient cannot be revived by any means.

26. A simple example to disprove 'Soul' can be seen with our own eyes. It is taken for granted that each living being must have a 'Soul' therefore the amoeba, the single cell living creature must also possess a 'Soul'. We have seen and monitored the activities of the amoeba under microscope, how it moves, and changes shape, swallows food and also have seen how it divides and from one living amoeba, two independent living creatures with same characteristics, same function and same abilities are created. It is fun to observe this activity. It takes less than a minute. Now the question arises, 'the original amoeba had a 'Soul'. When the amoeba divided did the 'Soul' divided into two? Or has a new 'Soul' entered the newly formed amoeba; and if so from where it has come? Which previous birth (and the body) it possessed? Was it a human being who's bad 'Karmas' in his previous life made him to be reborn in the body of this amoeba? Or was it from some other creature from the 84 Lacks of different births one has to go through till one gets 'Salvation' or "Mukti and Moksha", with his or her good deeds?
27. Swami Vivekananda says 'Mukti' is possible only through a human birth? Let me quote his own words, "Man is higher than all animals, than all angels. None is greater than man. Even the Devas will have to come down again and attain salvation through a human body. Man alone attains to perfection, not even the Devas."
28. And now this 'Soul' in this amoeba has to rise again to the birth of a human being if that 'Soul' wants salvation and be one with that 'Supreme being' who is governing not only us, but the entire universe. What a pity? The amoeba has no natural death. It only knows to live and propagate by dividing. Therefore its 'Soul' has no chance to rise up and attain salvation unless killed by some other means, may be by a human being, by administering an amoebicidal drug!

### **Definition of death, Persistent Vegetative State (PVS) and Organ Transplants**

29. In sudden cardiac arrest, if the patient is revived rather late, may be a minute or two later, and if the brain stem cells, which control the respiration and cardiac movements, are intact the person starts breathing. But if during this brief period of one or two minutes of stoppage of circulation, if there was no blood supply to the cerebral cortex (outer part of the brain) that part of the brain dies permanently. This cerebral cortex in human being is the seat for all the higher mental functions like consciousness, thinking, controlling the sense and other organs and so on. This person though is breathing and his/her heart beating, the patient permanently remains unconscious and is unable to do any routine body functions like eating, drinking, passing stools or urine voluntarily, unable to walk or talk, thus the life becomes totally vegetative and uneventful. To maintain their lives they have to be fed artificially and their other systems looked after for ever. This state is known as 'Persistent Vegetative State'. There are thousands of patients in the world leading this type of life, including Real Sharon, the ex-prime Minister of Israel. If as given in the Scripture, because of the Soul, knowledge, thinking, imagination, problem solving, memory,

creativity, and various moral and religious functions are possible then it must be said from these patients of PVS the soul is missing or already left their bodies. Then how are they not dead or how are they living without the Soul?

### **Definition of Death and Organ Transplants**

30. Today is the era of Organ transplants. Many organs like kidneys, livers, Hearts and others are being transplanted. In case of kidney transplants, at least a living donor can donate one of the two kidneys but in case of Heart and liver no body can donate these parts unless the person dies. To be useful, these organs have to be taken out of the dead body within minutes and transplanted immediately to the needy donors. This is almost impossible unless the dying person's circulation and oxygenation is maintained till all the arrangements for transplants are made, which may take days. This is done by using Heart-Lungs machine. In such situations when to declare that the particular person is dead and his organs can be taken out? Because, his circulation (Heart activity) and respiration can be maintained by the machine, as long as we or the relatives want. If it could be proved that his brain stem cells, which maintain the essential functions of life are irreversibly and permanently damaged may be by machines like Electro-encephalogram (EEG) then the person is declared as 'dead' and his/her organs removed. After the work is over the heart-lung machine is stopped.
31. In this case, this particular person was already dead few days before but his bodily functions maintained till his organs were taken out. Then what is the role of the 'Soul' in this situation? When did it go out? Whether at the first instance when the Heart and the Lung Machine was attached or when it was switched off?
32. All these facts go to prove that the birth and death of any individual are purely mechanical, physical, chemical and biological processes and that 'Soul' is not necessary for an individual to be 'alive'; neither it enters our body when we are born or nor goes out when we die.
33. The birth and death do not entail entry and exit of a 'Soul' and therefore the question of previous birth and rebirth and 84 lacks of different states (Chouranshi Laksha Yoni) and existence of a 'Soul' outside the body, and the ghosts and the good and bad spirits all are ruled out.
34. This is the story of the 'Soul' which I now understand and with such knowledge of 'The truth' about the 'Soul' or 'Atma' how can I believe the teachings of 'Scriptures' including 'Bhagwat Gita' whose total basis is based on the immortality of the 'Soul' or 'Atma'? Now I am convinced that there is nothing like Soul or Atman. All these are man made.

**Dr. R P Tongaokar**

## **The Necessity of Atheism**

*“I have great respect for people who are spiritual because they are good people. I am not spiritual. But, I use my quota of nobility by helping somebody, by feeding somebody, giving shelter to somebody. People who use their quota in worshipping, praying, adoring religious figures, in spite of that if they are left with some nobility towards humanity, hats off to them”.*

A comic incident has brought to the fore of atheists/rationalists, particularly in India. A group of space scientists has sought divine boost to a space vehicle by placing a replica of the rocket at the feet of a popular deity prior to its launch.

We are proud of our country where blind beliefs and superstitions rule instead of science. In a country where the majorities are illiterates it would be logical to think that it is the load of ignorance that stands in the way of inculcating scientific temper in this country. Few would suspect that it is the other way round; professed ‘scientists’ who are steeped in superstitions are the real stumbling block. The question naturally arises how a scientist can be superstitious because superstition and science should indeed be antonyms.

It’s the season of miracles in the country. It all started with the waters of the sea in Mumbai turning sweet. The next we heard it was idols drinking milk and then a tree oozing water, and next the form of a renowned saint appears inside a cave. Then we heard of sacred water coming out from idols, and more surprisingly Christ entering a human body as part of a special occult session in a prestigious Lucknow school. Most recently, we saw news Naga Baba (Snake God Man) – a King Cobra is giving his blessings and peoples are taking its Prasad at Aleba, Jind. The Mahanta Bira Giri is claiming that a renowned saint has taken rebirth in the form of snake. A poor woman was died on the spot by the bite of Naga Baba - the snake in this incidence. In Gopalganj, Bihar Mr Harihar Singh, Thane-In-Charge is paying his salute daily, to an empty chair as he believes that a ghost is living there. Again, most surprisingly, I saw in India TV that people used to submit their visa application to Bajrangwali in a Bajrangwali Temple, Ahemadabad, Gujrat. The caption of the news was “Matha teko, visa pao”. Again, I saw interesting news where Mr Sanjaya Jumanni, the famous numerologist was explaining why Kolkata Knight Riders didn’t play well. The reason behind is ‘Fire, Black Color, and Human Skull’ (Aag, Kala Rang Aur Khopadi). As King Khan showed Fire in his promo of ‘Kolkatta Knight Riders’, as he designed player’s dresses in black colour and even he showed the helmet which is looking like a human skull (khopadi) in the dress (jersey), the misfortune came - News covered in India TV, dtd.8th May ‘09 – it goes on and on, until one starts wondering whether India has suddenly turned into a hotspot or most favored destination for miracles, superstitions of all kinds and hues. Even in this 21st Century, we live with these thoughts. Should we feel ashamed of it? No, never. If we feel ashamed of it then we will avoid it.

Scientific explanations are available for all such so-called-miraculous occurrences. But is the human mind ready to accept these explanations? Faith seems to overpower rationality every time there is a tussle between miracle and science. The human mind is often conditioned to



accept facts as they are told without enquiry. Moreover, with people facing situations of grief and sorrow, of pain and suffering, and of illnesses many of which are at present untreatable, they often turn to what would be regarded as supernatural or irrational, for some amelioration and relief. We have to educate people regarding the problems we are facing, the price we are paying for countless superstitions in our society.

The concept of scientific temper has to start from the kitchen. The mother has to stop teaching the child that if milk is getting burnt it's not a bad sign; rather it's an indication that a small negligence can cause a bigger loss. While Westerners defined and practiced science as the systematic study about anything and everything, Easterners who followed theism (the reverse of atheism) that what their scriptures said was some sort of an absolute knowledge. Generations after generations have been taught to follow religion not to question it. If we don't question then we don't learn, if we don't learn then we are like donkeys, and horses, ready to carry the burden of someone else's misgivings. Man is a social animal. It doesn't imply that we live like animals without a conscience; rather it implies that we are dependent on each other to survive. The very base of society is a family and all the values are taught and inculcated from it – what the elders say is true, without a question. This is the norm that has to be broken. It's only possible if we ourselves realize that we commit the same mistakes irrespective of our level of education and it's the place where the seeds of change have to be sowed. A change in one family can bring a change in society and a change in society can change a country and so on.

Here, the necessity of atheism comes. Not only among scientists but also in every aspect atheism is an eye opener. Atheism satisfies us and clarifies all our doubts and answers, all our questions we put regarding the concept. Atheism allows open mind to prove its theory as Atheism is basically a humanist philosophy where the central theme is man and his welfare whereas theism can not answer to our doubts but on the other hand it imposes its thought and practices. Atheism is capable of solving some of the most vital issues facing mankind today, by applying its core principle of Humanism.

Atheism is quite an ancient doctrine which we can guess from the philosophy of Charvak. Here man is the measure of everything. Atheism rejects every type of supernaturalism. It only means that in the realm of values, man is supreme. Atheism does not believe in the existence of any supernatural entities like god, soul etc. It also does not accept the existence of heaven or hell. Atheism is a science-oriented philosophy. It tries to explain events around us scientifically. Here, there is no place for miracles in it. Atheism believes in ethics but not in religion. According to Atheism, religion is a superstitious ways of thinking. Lastly, the most important feature of Atheism is that according to it man is the creator of his values. He is the creator as well as the destroyer of values.

### **Theism Vs Atheism**

Although their ethical preaching's may be somewhat similar in Theism and Atheism, there are important differences between the two. Theists are mostly religious type of people. They are

spiritualists by faith. On the other hand Atheists are naturalists in their ontology ('materialism or physical realism') and scientific in their outlook. Theism mostly believes in the existence of god, soul, heaven, hell and so on. Atheism dispels these supernatural entities as non-existent. Atheism aims at providing man a code of conduct and behavior so that he does not commit acts likely to cause sufferings to him and to others. It gives meaning to life, shows the way to a noble goal and throws light on how that goal can be achieved.

Theism and atheism express man's attitudes to the world around him. Primitive man's world consisted of wind and rain, sun and moon, dream, disease and death. When people gathered into clans, families and tribes, the social needs of custom and morality cropped up into the world. In the modern age, political, economic and technological systems dominate man's world. Man's reaction to his world has been of two kinds: first, he surrenders to the forces of his world and drifts in the stream of its factors; second, he asserts himself upon the surroundings and harnesses the factors to satisfy his needs. The former is motivated by the slave-mind and the other by his sense of freedom.

Primitive man whose knowledge was meager and sense of security weak, was more prone to be timid and submissive than bold and assertive. His method of understanding was simple and anthropomorphous analogical. So he imagined that a manlike god created and controlled the world and he surrendered to the concept. That god should have been conceived in masculine form reflects man's domination.

Atheism is one of the most prominent concepts working to shape the future course of human civilization. Atheism is perhaps the only ism which will prove the best in making man's life happy and in raising his standard of living. The sooner we are driven by Atheism the more peaceful, progressive and tolerant the world would become.

**Nihar Ranjan Acharya**

Founder/Director, TRUST

### **Was Veer Savarkar Really "Veer"?**

For generations the Hindutvavadis have venerated Vinayak Sawarkar as Veer Savarkar. The writings of Savarkar, especially in Marathi, show great valour and heroic sentiments. In language that is both beautiful and brave, the writings of Savarkar, in prose and poetry, display heroic qualities but of Hinduism. Savarkar wrote an essay, "Hindutva" (Hinduness) in which he tells us who are really Hindus. Merely by birth in India, one does not become a Hindu. Hindu is one, says Savarkar, whose land of worship ("Punya Bhumi") is India; whose history, trials or tribulations are centred around in Hindustan. If one looks towards Mecca or Jerusalem for religious inspiration, he cannot be a Hindu as defined Savarkar. Thus Muslims and Christians whose basic holy places are outside India are not and cannot be called Hindus. The Hindutva idea

is alien to them. This is in sum, Savarkar's idea of Hindutva – a term which is not the same as Hinduism. Buddhists and Jains whose religions are not Hindu are yet embraced by Hindutva. It is almost a mystical concept.

Savarkar did not and could not foresee Hindu Diaspora or even Muslim Diaspora. Large number of Hindus have to U.S.A. and have acquired citizenship of America. Their ethos – is it included in Hindutva? The largest number of Buddhists are outside India in several East Asian countries. Can we say that they must display Hindutva? It will be an act of treason if they love India to the exclusion of the countries whose citizens they are. In his book "First War of Indian Independence" (which is about 1857) Savarkar speaks of joint Hindu-Muslim revolt. But that was long before the birth of Hindutva in Savarkar's mind.

Vinayak Damodar Savarkar, later also known as Tatyasaheb Savarkar, was born in 1853 in a town called Bhagur in Nasik District of Maharashtra. Even his hagiographers do not speak of his brilliance as a student. But his later writings, both prose and poetry, display of unusual command of Marathi language which continues to inspire Maharashtrians. It may be stated incidentally that on an occasion in England where he had gone for studies he wrote a poem asking the ocean "to take me to my motherland". In song frame it has been sung by Mangeshkar siblings and it has become immortal in Maharashtra. In the song he tells, among other things, that mother's cottage is better than a palace.

It has been recorded that once in his student days he pelted stones at a mosque in his town. He exhibited anti-Muslim feelings, even in his college days. He went to college in Pune. He organized groups of Hindus whom he inspired to be good and strong Hindus.

With the help of one Pandit Shyamji Krishna Verma, a strong believer in Hinduism, then resident of London, Savarkar went to England for education. An activist of "Abhinav Bharat", a revolutionary organization for freedom of India, Savarkar took part in several activities. Dhananjan Keer mentions that he was, in 1908, convicted for outraging the modesty of an English girl and spent four months in jail as a consequence. Savarkar also displayed strong patriotism inasmuch as he studied Mazzini and translated one book on Mazzini which came to be published in Nasik and enjoyed an uncommon popularity among Maharashtrians. That, Savarkar was a patriot is not disputed.

Madan Lal Dingra was hanged for assassinating Sir William Carzon Wylie who was the eye and brain of India House. Savarkar had inspired Dingra to do the act. Savarkar had also sent pistols clandestinely and one of them was found to have killed A.M.T. Jackson, the Collector of Nasik. The pistol which killed Jackson was traced to Savarkar who was arrested in London under Fugitives Act and brought to India. I have refrained from describing the activities of

Savarkar in England. Suffice it to say that those activities show his patriotism and intelligence. One thing, however, must be noted. It was never Savarkar's hand that pulled the trigger at any time. He inspired but never acted. While Savarkar was being brought to India in a ship, he jumped in the sea through a port hole. That was in France. However, he was captured and brought back. This was the only physical act of Savarkar in the cause of freedom. What he did was undoubtedly a daring act.

Ultimately he was tried, among others, for the murder of Jackson and sentenced to life imprisonment. Also in another case he was sentenced to life imprisonment. Those days, life imprisonment meant 25 years which in Savarkar's case meant 50 years. It was a fearful prospect which would have broken any man. If it broke the courage of Savarkar, one cannot blame him. This is where the act of so-called bravery of the person begins. He was transported to Andaman Island to serve his sentence in the awful cellular jail. This was regarded, among the Indians, as "Kalapani". It was the forced destination of hardened criminals.

Hard physical labour awaited Savarkar. He was received at Port Blair of Andaman on July 4, 1911. He was 28 years old. Within two years thereafter, Sir Reginald Craddock, Home Member Viceroy's Executive Council, met him. Sir Reginald's note recorded Savarkar's plea for mercy. On November 14, 1913, Savarkar had written to the Government: "I am ready to serve the Government they like ... Where else can the prodigal son return but to the parental doors of the Government?" (emphasis mine). In reply to a question in the Legislative Council on March 22, 1920, the Home Member, Sir William Vincent said: "Two Petitions were received from Vinayak Damodar Savarkar – one in 1914 and another in 1917 – through the Superintendent, Port Blair. In the former he offered his services to during the war in any capacity and prayed that general amnesty be granted to all political prisoners. The second Petition was confined to the latter proposal. In the Petition dated November 23, 1913, he wrote: "In the end, I remind your honour so be good as to go through the Petition for clemency that I had sent in 1911 and to sanction it for being forwarded to the Indian Government". He had in the same letter said: "Therefore the Government in their manifold beneficence and mercy release me, I for one cannot be the staunchest advocate of progress and loyalty to the English which is the foremost condition of that progress." The Government which he had decided not to serve became a Government of beneficence and mercy. The rebel became a person of loyalty. Continuing further he said: "Moreover my conversion to the Constitutional line would bring back all those misguided young man in India and abroad who were once looking at me as their guide."

"Veer" means, brave, hero, gallant, warrior as per Sanskrit and Marathi dictionaries. This Veer gave apologies as many as five times.

After being brought back to India, Savarkar was lodged in Yaravada Jail. It was when he was in this jail that he was to be conditionally released. On January 6, 1924, he was released subject to certain conditions. Two of them were as follows:

- Savarkar shall reside in Ratnagiri district and shall not go beyond the limits of that district without the permission of Government or in case of emergency of the District Magistrate.
- He will not engage privately or publicly in any manner of political activities without the consent of Government for a period of five years, such restrictions being renewable at the discretion of Government at the expiry of the said period.

The option to renew the terms was with Government and not with Savarkar who accepted the conditions.

In 1937 Congress formed in Bombay. It was the same Congress upon whom Savarkar had heaped abuses all along. The Government, in their “beneficence and mercy” relaxed the conditions of detention. Savarkar was free. His followers were naturally jubilant.

But on April 4, 1950 Savarkar was arrested, unjustifiably, under Public Security Measures Act (law of detention). A habeas corpus Petition was filed by Savarkar’s son, Vishwas, and it was heard by a Bench of Chief Justice Chagla and Justice Gajendragadkar. After taking instruction from the Government, the Advocate General, C.K. Daftary, who was prosecuting Counsel in Gandhi murder case, informed the Court that the Government would release Savarkar if he gave an undertaking that he would not participate in politics. Undertaking was given by Savarkar’s Advocate on his behalf and the Court ordered the release on that undertaking. This was the last condition which Savarkar accepted.

How did he come to know as Veer Savarkar? Who gave him that title? I am not able to find in any published literature an answer to these questions. However, personal inquiries made by me have revealed that Mrs. Bhatkar, the editor of “Bhala”, a Marathi periodical, dubbed Savarkar as Veer. Somewhere on the road, the word “Swatantrya” was added and thus Savarkar became Swatantrya Veer Savarkar” – Freedom Fighter Savarkar who did not do anything for the country after 1913 till his death in 1966.

Nelson Mandela spent twenty three years in jail and refused to admit that he would not take part in politics. Still we do not call him Swatantrya Veer.

I have not dealt with other aspects of Savarkar’s life except his apologies and undertakings which are relevant to the title of Swatantrya Veer. It must be admitted that large number of Maharashtrians, especially Brahmins, adored him. In Mumbai when Sangha Pariwar was in power in Municipal Corporation, a road was named after him. That road is one of the

longest roads in Mumbai and it runs into 3 postal districts. On this road has been erected, probably the biggest memorial in India, named after Savarkar. During the time when Manohar Joshi was the Speaker, an oil portrait of Savarkar was unveiled in the Central Hall of the Parliament, but Mahatma Gandhi's statue sits in the open braving the sun and winds.

**Justice R.A. Jahagirdar, (Retd)**

Founder of Rationalist Foundation, Mumbai

### **Shivaji's Statue in Arabian Sea**

Maharashtra Government has taken a decision sometime back that it will erect the statue of Shivaji, in the Arabian Sea, a la Statue of Liberty in US. Shivaji is one of the greatest icons from medieval times in Maharashtra. This statue is estimated to cost around 300 crores (ten thousand, thousands) as per present projections. This decision of the Maharashtra Government was hardly debated. Even those who feel that there is a bigger need for funds for other development issues, kept quite, as by now Shivaji has become a matter of big identity politics in Maharashtra. Every party with Maharashtra connection swears in his name. While one is scathingly critical, and rightly so, of the statue raising spree by Mayawati, statues of Dalit icons and of her own, about Shivaji there is hardly a ripple of protest, the debate about whether public money of such a big magnitude should be spent on the statue, has remained on the margins.

However what surfaced as the debate took the form of caste issue. There was a talk that Babasaheb Purandare, a Brahmin, who has written some popular material on Shivaji will be made as the Chairman of the committee overseeing the work of statue. In response Maratha Mahasangh chief, Purushottam Khedekar and others objected to a Brahmin heading the committee for a statue for Maratha warrior. They also threatened to use violence in case their fatwa is not followed. Not to be left behind, Raj Thackeray, belonging to another political tendency resorting to violent methods, gave a counter threat that Purandare must be retained on the committee.

It goes without saying that people like Khedekar and Raj Thackeray, sail in the same boat of intolerant politics, which needs to be condemned. Also the caste angle of controversy should be opposed thoroughly. Still one will urge that Babasaheb Purandare should not be on the committee. The reasons for that lie not in the fact that Purandare is a Brahmin, but because Purandare's presentation of Shivaji is through and through communal. It picks up from the tradition of British Historiography, communal historiography, which in order to implement the policy of divide and rule, presented the history through the prism of religion. In Maharashtra there are as many images of Shivaji's as are the number of political streams. Purandare's Shivaji, as manifested through his play Jaanta Raja (All knowing King) is primarily an anti Muslim King. Shivaji is also presented as the great worshipper of Brahmins and cows. Purandare's total slant is that Shivaji wanted to build Hindu nation etc. which is not only far from truth but also has a very divisive way of presenting our past.



As a matter of fact, Shivaji is popular amongst people, not because he was anti Muslim or worshipper of Cows and Brahmins, but because he went on to reduce the taxation on the poor peasants. Shivaji adopted humane policy in aspects of his administration, which did not base itself on the religion. In the recruitment of his soldiers and officers for his army and navy, religion was no criterion and more than one third of his army consisted of Muslims. The supreme command of his navy was with Siddi Sambal, and Muslim Siddis were in navy in large numbers. Interestingly his major battles were fought with the Rajput army lead by Mirza Raja Jaisingh on behalf of King Aurangzeb. When he was detained at Agra forte, of the two men on whom he relied for his eventual escape, one was a Muslim called Madari Mehtar. His confidential secretary was Maulana Haider Ali and the chief of his cannon division was Ibrahim Gardi.

His respect for other religions was very clear and he respected the holy seers like 'Hazarat Baba Yaqut bahut Thorwale', whom he gave the life pension and also Father Ambrose, whose church was under attack in Gujarat. At his capital Raigad he erected a special mosque for Muslim devotees in front of his palace in the same way that he built the Jagadishwar temple for his own daily worship.

During his military campaigns Shivaji had issued strict instructions to his men and officers that Muslim women and children should not be subjected to maltreatment. Mosques and Dargah's were given due protection. He also ordered that whenever a copy of Koran came into the hands of his men, they should show proper respect to the book and hand it over to a Muslim. The story of his bowing to the daughter-in-law of Bassein's Nawab is well known to all. When she was brought as a part of the loot and offered to him, he respectfully begged her pardon and asked his soldiers to reach her back from the place from where she was forcibly brought in. Shivaji was in no way actuated by any hatred towards Muslims as a sect or towards their religion. All this goes on to show the values of communal harmony which Shivaji pursued, and that his primary goal was to establish his own kingdom with maximum possible geographical area. To project him as anti-Muslim and anti-Islam is travesty of truth.

Today rank casteist-communal forces are also in the bandwagon to 'use' Shivaji issue for their political goals. One recalls that Human rights activist Teesta Setalvad had prepared a hand book of History for the school teachers some time back. In this she pointed out that since Shivaji was a Shudra, the Brahmins refused to coronate him, so a Brahmin Gaga Bhat had to be brought from Kashi, who did the coronation ritual. Since Shivaji was a Shudra this coronation was done with the toe of his left foot by Gaga Bhat. The local Shiv Sena went on to oppose this handbook on the ground that the writer is calling him a Shudra. It is true that Shivaji was a Shudra and this incident is true. Similarly Bhandarkar Institute was attacked by the same people, Khedekar and company, on the pretext that this institute had helped James Lane write a book on Shivaji. It is well known that this book mentioned a rumor about the real parentage of Shivaji.

While communal historiography has been the major tool in the arsenal of communal forces, now we are witnessing, 'caste historiography' to settle the scores of contemporary caste politics. It is sad. What is needed is to overcome these caste and communal angles to build the

nation, while giving justice to the deprived sections, while planning affirmative actions for the marginalized sections.

One also hopes the Government thinks of using the public money in a better way than raising statue. The making of statue should also take into consideration the ecological factors, and if these factors permit the statue, it should come up, with a proviso that the money for the statue will be raised from people. The government money should not be spent on this.

**Ram Puniyani**

### **The Odd Spiritualism of Arthur Conan Doyle**

*Sherlock Holmes is renowned for being super-rational. Yet his creator, Sir Arthur Conan Doyle, claimed to speak with the spirits of the dead. Andrew Lycett considers this paradox on the eve of the author's 150th birthday ...*

Sir Arthur Conan Doyle let me down. Shortly before I completed writing his biography, I went to a small corrugated building in North London to see if I could substantiate his belief in communication with the dead. My destination was the Rochester Square Spiritualist Temple. As a plaque inside the door attests, Sir Arthur had helped finance its construction in the decade before his death in 1930. Having grown rich through his Sherlock Holmes stories, he had become the world's most famous exponent of spiritualism.

In my coat I carried a letter in Conan Doyle's hand. Perhaps I hoped this would give off some subtle communication to the temple's medium, who was busily delivering messages from the dead to members of the small, mainly female, congregation. I had hoped to learn more about the man, and maybe even something about myself. But while the medium singled out people in the congregation to tell them details about themselves and their loved ones, she failed to alight on me. Despite her histrionic efforts to get in touch with 'spirit' (as she put it, without the definite article), she left my many queries unsolved and my scepticism fortified.

What a pity. It would have been sensational to round off my biography with definitive answers to nagging questions, such as: What was Holmes's actual relationship with Watson? And did the upright Sir Arthur have an adulterous affair with a younger woman while his first wife was dying of tuberculosis? More apposite: how could Conan Doyle, a medical man steeped in empirical reasoning at Edinburgh University and the creator of a super-rational detective, have fallen for this mumbo jumbo? His support for spiritualism lent credence to some of the more outrageous frauds perpetrated on people desperately trying to get in touch with loved ones lost in the first world war. In his desire to prove the existence of spirits, he notoriously promoted two Yorkshire girls who, for a lark, claimed they had photographed the Cottingley Fairies.

On one level, his was the story of a lapsed Roman Catholic troubled by an alcoholic father and never quite able to cast off his sense of the supernatural. On another it was the intellectual journey of an inquisitive man, dissatisfied with Victorian materialism but intent on using its tools

to examine alternative forms of consciousness. This was also a time when orthodox religion was giving way to Darwin and science.

As a doctor Conan Doyle was fascinated by early experiments in thought transference and healing through mesmerism and hypnotism. These were given an occult twist by early spiritualists, such as the Fox sisters from upstate New York, who won acclaim in the 1840s for their apparent ability to communicate with the dead through table-rapping (though they later confessed to fraud). America-based clairvoyants such as Daniel Dunglas Home crossed the Atlantic to become celebrities in Victorian Britain, where, despite being denounced by Robert Browning in his poem "Mr Sludge, 'the Medium'", they were even feted by scientists.

Paradoxically for an anti-materialist movement, spiritualism began boasting ever more tangible signs of such communication, including 'spirit photographs', ectoplasm and objects that floated round a room at a medium's behest. The conditions for fraud were widespread.

Conan Doyle became interested in the Society for Psychical Research (SPR), set up in 1882 to scientifically investigate paranormal phenomena, such as extra-sensory perception. But he found himself at odds with the SPR's objectivity. He felt he didn't need laboratory experiments to prove what he knew to be true.

After holding séances with his wife Jean to get in touch with members of their family killed in the first World War, Conan Doyle came out as a spiritualist. He claimed to converse with the spirits of the dead. Virtually abandoning Sherlock Holmes, Conan Doyle churned out books on spiritualism and addressed vast audiences around the world on the subject. He proudly adopted the sobriquet "the St Paul of the New Dispensation", ruffling some feathers along the way. In North America he clashed with Harry Houdini, an illusionist, who argued that all spiritualists' "tricks" could be replicated by a competent magician.

He was a crusader who enjoyed fighting for a minority cause. Shortly before his death in July 1930, he headed a spiritualists' delegation to the Home Secretary, J.R. Clynes, protesting against police harassment of mediums under antiquated witchcraft and vagrancy laws. Almost eight decades later, spiritualism has seen off the threat of official persecution. Yet like many Victorian phenomena, spiritualism has fallen by the wayside. Those who are disenchanted with religion but keen on the supernatural may now content themselves with the new-age movement. For all his commitment to spiritualism, Conan Doyle, who would have been 150 on May 22nd, was canny enough not to compromise Sherlock Holmes's credibility with it. Presented with evidence of the supernatural in "The Adventure of the Sussex Vampire", the great detective says, "This agency stands flat-footed upon the ground, and there it must remain. The world is big enough for us. No ghosts need apply."

**Andrew Lycett**

## Dark Nights

*Most serials claim to uplift society; then why do superstition and blind faith still play a big role?*

Visuals of milk or kumkum being spilled, a black cat crossing someone's path, a widow attending a festivity or heavy thunderstorm signaling bad omen are common on television. Family dramas may have been shown the door for quick-fix entertainment like reality shows, talent hunts, savvy travel shows and celebrity interviews save for one glitch -- shows peddling superstitions still abound, and they are popular too. For all the tech - suavity the industry utilizes, television content is still rather, er backward. "It is the thrill that makes these shows popular. One may not practice black magic; but watching how voodoo works does make for very compelling television," says Perna Pahuja, a regular viewer of Black on 9X.

Other serials like Shubh Kadam, Mata Ki Chowki, Rahe Tera Aashirvaad, Mahima Shani Dev Ki, Balika Badhu, Shree and Koi Aane Ko Hai perpetuate superstitions and use them as devices to add dramatic high points. Sunjoy Wadhwa, producer of Balika Badhu on Colors says that superstition is often as a drama element. It is a prelude to what is coming next to keep the viewer gripped.

With most serials set in villages these days, showcasing superstitious practices becomes a must, he feels. "These beliefs are inherent part of the story. And the semi-urban population is prone to superstitious practices," he justifies.

According to 29-year-old media person Dhriti Nath Dayal, "Superstition is ingrained in the Indian mind set. Most of us grew up believing that black cats are ominous. To date, most of us hang lemon-and-chillies outside our home's front door (and fasten to the vehicle!). when such issues are addressed it forms an immediate connect with the viewer especially the older lot."

Producer JD Majethia of Shree on Zee TV admits that the show has elements of blind faith but says: "No matter how educated a person is, beliefs like vastu shastra and astrology are built into mental make up." Majethia is only playing on the Indian psyche. "Most serials end on a freeze point; I wanted every scene to end on a freeze point. Superstitious elements always intrigue people," says the producer. Smita Bansal of Balika Badhu seconds his view. "Most of us want to know how if the "beliefs" we have grown up with are real and justified. If someone says he or she can prove that God exists, I'm sure everyone will flock around to know what that person has to say."

Most people believe that superstition came into prominence on television when zarina Ekta Kapoor brought elements of superstitious beliefs like unlit lamp signifying bad luck and a dried tulsi plant signaling the end of something. With her new show Koi Aane Ko Hai, Kapoor is again being accused of peddling superstition. Kapoor clarifies, "These things (superstitions) happen in real life and if you want to ignore them and sweep them under carpet, that's your call." Balika badhu may be publicised as a socially relevant show, but even this one rides high on superstition. Every time the young widow on the show attends a ceremony or is seen at a celebration, she is criticised. Doesn't this impact the mind of the viewer in the long run? "There

are several regressive beliefs and customs in our society which a writer uses to tell his story. But the basic purpose is to isolate the wrong and highlight the right. We have to first present the problem to provide a solution," says Wadhwa.

Er, okay.

**Priyanka Periera**

Courtesy: Indian Express

### **Superstitions: Not My Cup of Tea!**

God and soul are the biggest and original superstitions that gave birth to several of them in all the religions, except Buddhism which rejected both God and Soul. Today belief in superstitions has become an order of the day. I quote below three incidents in my life of 86 years now, in which I faced the situation in an altogether different fashion.

I was returning from my sister's place to mine (I was then at Bhusawal) at about 10 p.m. when the road was absolutely lonely. I noticed a straight line of water across the road. In the centre of it was a yellow lemon fruit in which three needles were thrust. Vermillion and turmeric powders were sprinkled on it. The common belief is that one who walks over this to go further, finds himself or herself in one calamity or the other. I abused in mind profusely the person concerned for this despicable act and kicked the lemon fruit to the left of the road; and it fell in a ditch there; crossed the water line and walked my way home fearlessly. I did not tell this either to my wife or my sister lest they should feel frightened about bad effects on me as both of them are believers in God and bad effects of such acts. Nothing bad has happened till today to me!

The second instance also happened at Bhusawal only. My dear Friend Mr. Kulkarni and I had gone to our friend Mr. Sawarkar who was to sing classical music. I played on Tabla to his singing. On return home about 12 O' clock midnight, I felt very urgent need of pissing. I went, vacated my bladder and came back only to see Kulkarni trembling badly! On asking the cause, he said, "Mr. Mahabal, you pissed at the foot of a Peepal tree, which has a live ghost on it. You have committed a sin! Please consult a priest first thing tomorrow morning and perform such ritual as he would advise, in order to absolve you from the sin you committed, albeit unintentionally." I said 'Yes' to him with a view to calming him from anxiety, a staunch faithist that he was. I did NOT do anything he suggested; and had to commit a sin of telling him a 'lie' that I did it, when he anxiously enquired about it, a couple of days after. This too has not done me no harm so far.

A cat has crossed my way several times in my life; and yet, the job I went out for, has NEVER failed. Any believer would have acted very differently in such cases. Those who keep lemons on the road are the worst sinners deserving severest punishment; but the present psychic make up of both the people and the government is such as makes them to choose 'INACTION'! When the sun of 'Reason' will rise on the thought-horizon of such persons, none can guess!

All that I would say in the end with emphasis is MAY REASON TRIUMPH and blind faith be banished from our secular nation!

**Y.J. Mahabal**

## God-Forsaken Religions

*In search of the un-searchable: O, my soul! Where would you find your house?*

Any religion  
that sidelines  
excludes  
any one.

Any religion  
that targets  
finger points  
some one.

Any religion  
whose language  
is “we” / “they”  
and not “us”.

Any religion  
that does not  
open doors to  
every one.

Any religion  
that claims  
it’s “the one  
and only one”.

All such religions  
run against God  
who is Oneness  
& abhors division

**Cecil Rajendra**

*Cecil Rajendra is a Nobel nominated poet. He is much respected for his pioneering work as a human rights lawyer and environmental activist as well as his poetry. Rajendra has explored the cultural, spiritual and material values of Asian society and critiqued both industrial development and development aid by means of his poetry. As an activist his passport was famously impounded by the authorities in the 1990’s for alleged ‘anti-logging’ activities. In 2005, Cecil Rajendra was the first ever recipient of the Malaysian Lifetime Humanitarian Award for his legal aid work and his inspirational poetry. That same year he was also nominated for the Nobel Prize for Literatur.*

## What is Rationalism?

Rationalism is the belief that the world we live in can be understood by the use of reason. The Rationalist Association argues for a rational approach to human problems, proposes reasoned alternatives to religious dogmas, aims to advance a secular system of education and wishes to defend freedom of thought and civil liberties.

Reason is a tool for solving problems, creating strategies, debunking nonsense and undermining dogmas. However, feeling, compassion and imagination are also important in driving and enriching our actions and thoughts. The strength of reason is that it is a powerful tool of understanding and a means of arriving at rational decisions. Human choices are not always made with complete rationality, but it is preferable to aim for the reasonable than to choose without thought.

The scientific process is powered by the use of reason. Much progress has come through scientific understanding, although the application of science, such as atomic explosions or genetic modification, can sometimes be dangerous. Imagination and empathy enable us to envisage the outcome of the application of science. The arts too can enlarge our concept of being human.

Rationalists have questioned the claims of religious thinkers and religious institutions. They may be agnostics or atheists, but they doubt the claims of the supernatural on the grounds of lack of reasonable evidence. The attitudes and injunctions of religions seem unconvincing when examined in the light of reason.





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# THOUGHT & ACTION

Committed to Build



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## Rush Hour of the Gods

*"The world today is as furiously religious as it ever was. Experiments with secularized religions have generally failed; religious movements with beliefs and practices dripping with reactionary supernaturalism have widely succeeded."*

Peter Berger,  
*Desecularization of the World*

Those looking for evidence to back Peter Berger's conclusion can do no better than take a closer look at the religious landscape of India, the "crouching tiger" of 21st-century global capitalism.

India today is teeming with millions of educated, relatively well-to-do men and women who enthusiastically participate in global networks of science and technology. The Indian economy is betting its fortunes on advanced research in biotechnology and the drug industry, whose very existence is a testament to the naturalistic and disenchanted understanding of the natural world. And yet a vast majority of these middle-class beneficiaries of modern science and technology continue to believe in supernatural powers supposedly embodied in idols, "god-men" or "god-women," stars and planets, rivers, trees and sacred animals. By all indications, they treat supernatural beings and powers with utmost earnestness and reverence and go to great lengths to please them in the hopes of achieving their desires.

According to the 2007 State of the Nation survey conducted by the Centre for the Study of Developing Societies among Indians, the level of religiosity has gone up considerably in the past five years. A mere five per cent of respondents said that their religious belief had declined, while 30 per cent said they had become more religious. The same poll found that education and exposure to modern urban life seem to make Indians more, not less, religious: "Urban educated Indians are more religious than their rural and illiterate counterparts religiosity has increased more in small towns and cities than in villages."

Another measurable indicator of rising religiosity is the tremendous rise in pilgrimages or religious tourism. According to a recent study by the National Council for Applied Economic Research, "religious trips account for more than 50 per cent of all package tours, much higher than leisure tour packages at 28 per cent." The most recent figures show that in 2004, more than 23 million people visited the Lord Balaji temple at Tirpuati, while 17.25 million trekked to the mountain shrine of Vaishno Devi. Here I will focus on Hindus, who make up nearly 85 per cent of India's population. But they are not the only ones who are becoming more religious: indicators of popular religiosity are rising among Indian Muslims, Christians and Sikhs as well.

Today's generation of Indian upper and middle classes are not content with the de-ritualised, slimmed-down, philosophised or secular-humanist version of Hinduism that appealed to the earlier generation of elites. They are instead looking for "jagrit" or awake gods who respond to their prayers and who fulfill their wishes – the kind of gods that sociologists Rodney Starke and Roger Finke, authors of *Acts of Faith*, describe as "personal, caring, loving, merciful, close, accessible all of which can be summed up in a belief that 'there is someone up there who cares'." The textual or philosophical aspects of Sanskritic Hinduism have by no means diminished in cultural prestige: they continue to serve as the backdrop of "Vedic sciences" (as Hindu metaphysics is sold these days), and continue to attract a loyal following of spiritual seekers from India and abroad. But what is changing is simply that it is becoming fashionable

to be religious and to be seen as being religious. The new elites are shedding their earlier reticence about openly participating in religious rituals in temples and in public ceremonies like kathas and yagnas. If anything, the ritual dimension is becoming more public and more ostentatious.

Not only are rituals getting more elaborate but many village and working-class gods and goddesses are being adopted by the middle classes, business elites and non-resident Indians – a process of Sanskritisation that has been called a "gentrification of gods". Worship of local gods and goddesses that until recently were associated with the poor, illiterate and lower castes is finding a new home in swank new suburbs with malls and multiplexes. The enormous growth in the popularity of the goddess called Mariamman or Amma in the south and Devi or Mata in the rest of the country is a case in point.

The natural question is why? What is fuelling this middle-class devotion to "lesser" gods, traditionally associated with the unlettered? Devotees themselves provide a fairly cogent explanation: they see these local gods as being far more intimately familiar with, and responsive to, the needs of ordinary people than the "great gods" who live up there in the celestial sphere.

Rather than retiring their gods, as secularisation theory expected, the emerging middle classes in India are remaking them. The local deities who were once considered guardians of the village, and protected against scourges like smallpox, are now being beseeched for blessings for success in an increasingly competitive urban environment.

How to explain this phenomenon? What motivates educated, well-to-do urban sophisticates to continue to believe in miracles and supernatural beings? Social theory has only two standard answers, neither of which fits the Indian data very well.

The first answer has to do with economic well-being. As has been recently shown with great sophistication and care by Pippa Norris and Ronald Inglehart in their book *Sacred and Secular*, the level of belief in modern, post-industrial societies bears a strong correlation with the level of "existential insecurity". On mapping religiosity against income data from societies in North America, Europe and Japan, Norris and Inglehart found that the higher the income level, the lower the religiosity as measured by frequency of prayer: in aggregate terms, the poor turn out to be twice as religious as the rich. The data from the United States, for example, shows that two-thirds of the least well-off prayed, compared with 47 per cent of the highest income group. According to this view, religiosity does fall off and people do become more secular in modern industrial economies, except when they are caught on the lower rungs of the economy in those societies that do not provide public welfare.

This explanation does not adequately explain the Indian data. Here we have the case of rising religiosity among the already wealthy and the upwardly mobile, whose level of material well-being is fairly decent even by Western standards.

The second explanation is that the growing religiosity is a defensive reaction to modernisation and Westernisation. Pavan Varma, the author of the much-cited *The Great Indian Middle Class*, treats religion as a refuge for the alienated and lonely urbanites, uprooted from the old, warm little communities they left behind in villages. Varma simply assumes that the transition to modern life in the cities must be traumatic and drive the new middle classes to seek out the consolation of God in the company of fellow believers.

But insecurity and anomie do not appear to be the most salient aspects of what is going on. There is anxiety and insecurity among the newly well-to-do as they face an increasingly competitive economy with declining job security. But there is also a sense of expanding horizons and multiplying opportunities. The upwardly mobile in urban India have, in the words of researcher Maya Warrier, "done well for themselves by seizing the educational and career opportunities that came their way. Their experience of the unprecedented pace and scale of change had resulted not so much in a sense of despair and alienation as in a sense of optimism about multiple opportunities in most spheres of life."

It is not despair or alienation, but rather ambivalence over their new-found wealth that seems a more plausible explanation of the growing religiosity.

Modern gurus seem to ease this ambivalence by giving new wealth a divine stamp of approval. "To be rich is divine" is the message coming from modern gurus who minister to the upper crust. Swami Dayananda, the guru of successful businessmen and women in Chennai, for example, teaches a business-friendly version of Gita which he sells as "a program for living" or a "plan for life". Rather than renounce all desire, as Lord Krishna teaches in the *Bhagavad Gita*, Dayananda's version of the Gita teaches that "desires are a manifestation of divinity that actuate people to do things." "Practical moksha" does not mean renunciation of these divine gifts but only that they be brought under control of the will. Thus, while claiming to teach the "eternal" message of moksha which aimed at identification with the Godhead, modern gurus dish out advice on how to succeed in business.

Blessing the hyper-consumption of their middle-class followers is only half the story. Modern gurus also seem to help to take the edge off guilt by teaching how to "balance" all that consumerism with spiritual pursuits. Gurus like Mata Amritanandamayi teach that "Western" consumerism creates bad "karmic burden" which can be negated, or at least "balanced", by performing some of the rituals and pujas she prescribes. To put it a bit flippantly, the cure for shopping is more shopping – this time for spiritual products and the services of gurus and priests. Surely a win-win situation for all involved!

There is, however, another factor that is making public expressions of religiosity fashionable, namely the rising levels of triumphalism and nationalism among the upwardly mobile. Polling data from a Pew Global Attitude Survey revealed that as many as 93 per cent of Indian respondents – the highest in the world – agreed with the statement "our people are not perfect, but our culture is superior to others". In comparison, Chinese, Japanese and even American public opinion was far more self-critical and ambiguous over the superiority of their cultures.

For educated Indians brought up on a steady diet of religious, media and other cultural discourses that constantly package Hindu signs and symbols as the essence of Indian culture, it has become almost second nature to conflate the two. Now that India is becoming an important player in the global market many are beginning to ascribe the country's success to the superiority of "Hindu values". This sentiment is being aggressively promoted by gurus and tele-yogis like Swami Ramdev, Swami Dayananda Saraswati, Sai Baba and a host of others. Indeed, the public sphere is replete with these messages of becoming more Hindu in order to become more successful in the global race for money and power.

On the face of it, contemporary popular Hinduism appears to be the very epitome of a dynamic and inventive religious tradition which is changing to keep pace with the changing time. Clearly, all the new gods, god-men/god-women, new temples and rituals add up to an

impressive inventory of creative innovations that are allowing men and women to take their gods with them as they step into the heady, though unsettling, world dominated by global corporate capitalism. But there is an underside: the same innovations in religious ritual and dogmas that are enabling the "Great Indian Middle Class" to adjust to global capitalism are also deepening a sense of Hindu chauvinism, and widening the chasm between Hindus and non-Hindu minorities. The banal, everyday Hindu religiosity is simultaneously breeding a banal, everyday kind of Hindu ultra-nationalism. This kind of nationalism is not openly proclaimed in fatwas, nor does it appear on the election manifestos of political parties. Its power lies in structuring the common sense of ordinary people.

The net result is a new kind of political and nationalistic Hinduism which is invented out of old customs and traditions that people are fond of and familiar with. Because it builds upon deeply felt religiosity, it sucks in even those who are not particularly anti-Muslim or anti-Christian. Religious festivals, temple rituals and religious discourses become so many ways of "flagging" India as a Hindu nation, and India's cultural superiority as due to its Hindu spirituality.

The best way to describe the banality of Hindu nationalism and the role of religion in it is to show how it works.

The example comes from the recent inauguration of Shri Hari Mandir, a new temple that opened in Porbandar in Gujarat in February 2006. The grand sandstone temple and the priest-training school called Sandipani Vidyaniketan attached to it are a joint venture of the Gujarat government, the business house of the Ambanis and the charismatic guru Rameshbhai Oza. The inauguration ceremony of this temple-gurukul complex provides a good example of how Hindu gods end up serving as props for Hindu nationalism and Hindu supremacy.

According to the description provided by the organisers themselves, the temple was inaugurated by Bharion Singh Shekhawat, the vice-president of the country, with the infamous chief minister Narendra Modi in attendance. Also in attendance were the widow of Dhirubhai Ambani and the rest of the Ambani clan whose generous financial donations had built the temple. Some 50,000 well-heeled devotees of Oza from India and abroad crowded into the temple precincts to watch the event.

The elected representatives of "secular" India, in their official capacity, prayed before the temple idols – something so routine that it hardly evokes a response from anyone any more. The prayer was followed by the national anthem sung before the gods, followed by recital of the Vedas by the student-priests, followed by a Gujarati folk dance. This was followed by speeches that liberally mixed up the gods and the nation, with quite a bit of rhetoric about the greatness of Hindu "science" thrown in for good measure. Modi, the chief instigator of the 2002 Godhra riots between Hindus and Muslims, spoke glowingly of the "tolerance" and "secularism" of Hinduism. He went on to recommend that yagnas and religious recitals be held all over the country before undertaking any new construction because Hinduism is "inherently ecological". Next came Mrs Ambani, who urged mixing spirituality with industry. The vice-president, in his turn, spoke of how modern and scientific Hindu traditions were, comparing the gods' weapons with modern missiles and their vehicles with modern-day helicopters.

The theme of the superiority of ancient Hindu science was taken up a week later when the president of India, APJ Abdul Kalam, came down to the temple-ashram complex to inaugurate its "science museum", which highlights ancient Hindu discoveries in



astronomy/astrology, medicine (ayurveda), architecture (Vaastu) and such. Without ever questioning what validity the Earth-at-the-centre astronomy/astrology of Aryabhata has in the modern world, the nuclear physicist president went on to claim not only the greatness of antiquity but also the continued relevance of the ancients for "enriching" modern astronomy. The ancients were smoothly turned into the guiding lights of modern science – regardless of the fact that their cosmology has been falsified by it.

This is representative of how India's state-temple-industrial complex works: the gods become the backdrop, and the traditional puja the medium, for asserting the Hindu-ness of India and the greatness of both. Worship of the gods becomes indistinguishable from the worship of Hindu culture and the Indian nation. Devotees come to listen to hymns sung to gods, but end up worshipping a political ideology – and cannot tell the difference. The cult of nation, furthermore, is simultaneously turned into a cult of "reason" and "science", without the critical and empirical spirit of science.

Once the beloved and popular gods become identified with the land and its culture, Hindu nationalism becomes an everyday affair. No one has to pass fatwas and there is no need to launch a militant battle against the West. Hindu nationalists have no use for such crude tools. They would rather turn the worship of gods into the worship of the nation and they would rather beat the West by appropriating the West's strengths in empirical sciences for their own gods. The tragedy is that the religiosity of ordinary believers provides the building blocks for this banal, but far from benign, Hindu nationalism.

Economic globalisation and neo-liberal reforms have created the material and ideological conditions in which a popular and ritualistic Hindu religiosity is growing. Popular religiosity, in turn, is being directed into a mass ideology of Hindu supremacy and Hindu nationalism.

This trend is a symptom of a deeper, more fundamental malaise, namely the failure of secularism. For all its professions of secularism, the Indian state has not developed a stance of either equal indifference to or equal respect for all the many religions of India. It has instead treated the religion of the majority as the civic religion of the Indian nation itself. The result is a deep and widespread Hinduisation of the public sphere, which is only growing under the conditions of globalisation.

**Meera Nanda**

*This is adapted from Meera Nanda's book  
**God and Globalization in India***

### **National Leaders**

when the top leaders of a nation make no move without first consulting astrologers, when they employ tantriks to ward off evil to themselves or to checkmate their opponents, when they seek the blessings of this Amma or that Avadhut, this Baba or that Bhagwan, when they spend more time visiting temples and ashrams than attending to work in their offices, in a word, when the leaders themselves are given to stupid beliefs and silly superstitions, will not the populace be even more stupid and silly?

**V. R. Narla**

■

## The Concept of Scientific Temper

“A science in its development is

- A collection of exactly observed facts;
- A correlation or generalization of these facts, forming a system;
- A formulation of these generalizations as laws;
- It proceeds to some principle or force accounting for these laws; hence, exact knowledge of proximate causes.” (Condensed from The Standard Dictionary)

*“Science is Knowledge reduced to law and embodied in system.” “Knowledge of a single fact, not known as related to any other, or of many facts, not known as having any mutual relations or as comprehended under any general law, does not reach the meaning of science.”*

Law, in the broadest sense, is the observed order or relation of the facts. It is not required that the cause of the order or relation be known. As mathematicians and astronomers, accustomed to deal with the highest order of facts, are content to accept the law of gravitation without explanation of the cause. But the tendency of modern physical science is toward the more complete generalization; its goal being the discovery of a universal principle which shall connect all physical phenomena. Specifically, in the scientific sense, a law is the connecting link between two series of phenomena, showing their relation to each other.

There are two tests of the validity of any law that is claimed to be a natural law, or law of nature.

A) That it is capable of connecting and explaining two series of natural phenomena.

B) that is in harmony with other known laws. In optics, for example, we have the phenomena or properties of luminous bodies, and the phenomena of light receiving bodies.

These two series of phenomena are connected and explained by the law of the diffusion of light. In physics the phenomena of the sun, as regards density and volume, are related to the phenomena of the earth by the law of attraction or gravitation. In chemistry the properties of potassium are related to the properties of sulphuric acid by the law of chemical affinity and definite proportions, in the formation of a new compound, potassium sulphate. Thus science is a branch of systematic and formulated knowledge, especially one dealing with material phenomena and based on observation, experiment and induction. It must be conformed to at least three requirements:

- it must be based on facts.
- It must be rational, that is logical.
- It must be demonstrably true.

Again, it is not enough for knowledge to be simply ‘rational’. When people believed that epidemics were sent by offended deities it was ‘rational’ that their children should be offered as propitiatory sacrifices as at that time they were helpless. If one believes that disease is merely an ‘error of mortal mind’, it will be rational to adopt mind repair technique but too often neither logical, based on facts, nor demonstrably true.

We should rest upon the following general interpretations of the System of Nature which Science universally recognizes as fundamental.

- 1) The laws and ways of Nature are uniform and harmonious.
- 2) Effects follow causes in unbroken succession.
- 3) To every action there is an equal and opposite reaction.
- 4) Action and reaction are ceaseless, equivalent and reciprocal.
- 5) Motion is ceaseless and transformation continuous.

- 6) Matter is indestructible and infinitely divisible.
- 7) Force is persistent and indestructible.
- 8) The quantity of action necessary to effect any change in nature is the least possible.

The aim of all science is to set up in place of the *contingent* that which law makes *necessary*, and to refer every particular to its universal. These two predicates connect science with things. Not by the empiric accumulation of facts perceived (the facts of perception), but by their well weighed appreciation, according to the eternal laws of nature, is their existence secured for all time. Facts which this criterion rejects are worthless scientifically. Hence in Science we strive not only to separate the contingency from the event, i.e. to determine the causal succession from what has taken place, but also to become master of that contingency which makes our judgment uncertain. The contingency of our judgment of the facts, arrived at experimentally by the process of analysis, must be removed synthetically by connecting the laws of nature with the facts, so that we may be able to show their interdependence and act accordingly. In this synthesis, or connecting of our perceptions, conducted simultaneously with experimentation, consists the **Art of observation**.

All conceptions of our inner being, as well as external things, are based primarily upon the perceptions of our senses (including consciousness, or the 'inner sense'). But the formation of our ideas, judgments and conclusions must result from determinate, objective laws, inherent in the things themselves and their constitution, and not from the work of lively fancy.

Every event in the circle of natural phenomena has a conditional necessity, since it can only result from its precedents and depends upon them. This conditional necessity results from the primary unconditional necessity of the fundamental laws of nature and their truth. Laws of nature are the forms by which the constant course of natural phenomena from given causes and conditions may be expressed. Laws do not cause the existence of events or phenomena. By virtue of the laws we may explain to ourselves, intellectually, not the existence, but the connection of phenomena, and so come to understand their development and conditions. We understand phenomena, not by any apparent properties of the phenomena themselves, but by intuitive perception or immediate consciousness of the fundamental laws. Such laws as the law of cause and effect, the equivalence and contrariety of action and reaction, the constancy of matter and force, are intuitively perceived to be the ultimate reason of which we can have any knowledge. That which changes the regular course of states and events, however, results in consequence of causes which may be determined by physical science by considering the fundamental laws of nature. Every change of state or event has a number of causes, known as primary and secondary causes, or as cause and conditions. Every change implies or presupposes something constant that is something with at least two opposite tendencies. Chemistry e.g. rests upon the law of constancy of bodies and forces, the law of chemical affinity and the law of definite proportions or equivalence.

In accordance with the law of constancy of bodies and forces, all bodies remain essentially the same under all circumstances. Chlorine remains chlorine, and hydrogen remains hydrogen always. Only as they are combined according to the laws of chemical affinity, and certain definite proportions, do they change their state and become hydrochloric acid. The cause of this result lies in the art of the chemist. The conditions lie in the specific affinity of these bodies for each other and for other bodies. The effect is to change their two states into one in the form of hydrochloric acid.

**Relations of Science and Art:** Art and Science are inseparably bound together. Every art has its foundation in science, and every science finds its expression in art. Consciously or

unconsciously the artist or the craftsman at work is applying principles and laws, formulated and systematized knowledge of which constitutes science.

**Science and Scientific Temper:** Thus science is a constant exploration of the reality of nature in an attempt to realize the truth. Our curiosity to understand nature by making such observations that demonstrate our thirst for knowledge is, in fact the stepping-stone for developing a scientific temper. Having scientific temper or scientific frame of mind means that one has the disposition to question the existing facts and critically challenge the 'givenness' of any *a priori* knowledge. No doubt then, with true scientific spirit, one can constructively respond to the challenges of the world. A scientific temper is observant and asks questions as to why things in nature exist the way they are; like why sky is blue or the grass is green! A scientific temper is necessary to provide us with the ability to modify our environment to our advantage. We need it to find solutions to the problems of everyday human life.

**Scientific Temper Vs Superstitions:** One, who believes in logics, does not believe in superstition. Superstition involves beliefs, practices and procedures based upon conscious or unconscious assumptions usually concerned with the nature of cause and effect; whereas scientific temper signifies an open mind and the liberty to question. The Oxford Dictionary defines Superstition, as a thoughtless fear of something unknown or mysterious especially in connection with religious belief based on fear or ignorance. Superstitions, belief in astrology, witchcraft and sorcery and health related misconceptions are very detrimental to the society. Consulting astrologers to begin any work is yet another phobia tinsel people suffer from. Further in answering to the question - why are we superstitious? It can be said this much that we are conservative and hold very tightly the old ideas and customs long after their original purpose has been lost or forgotten. The cycle of formulation, prediction and falsification (or proof) is the core of the human scientific activity. Alleged connections that cannot be captured in these nets of reasoning are out either as hypothetical or as false. Science is based on facts and is not driven by emotions. Hence, today's youth should be encouraged towards critical thinking and given freedom to question and explore. There is a need to raise debate between reason and belief to establish the credibility of science against the speculative worth of superstition.

**Miracle:** Dictionary meaning is that it is a supernatural event or a wonder or a marvel. But modern science has convincingly established that there is no possibility of any supernatural events in this vast and otherwise varied universe. Whatever happens here, it proves, is natural and has natural explanations. Hence, a miracle can be defined as an event or an occurrence beyond the level of being objectively understood or deciphered by an individual or a group of individuals, at a given time or situation. From the above definition it follows that occurrence of a miracle depends upon an individual or a group of individuals who experiences the miracle. It presupposes that the basic attributes of a miracle revolve around the cerebral attitude and environmental conditions of the perceiver of the miracle. No miracle, irrespective of its hue or color, is an exception to this truth that people have the tendency to accept sometimes the very ordinary occurrence to supernatural happening i.e. one's extraordinary fascinations of a deranged mental condition.

**Cognitive Disorders:** In terms of miracle, we are essentially confronted with two major categories of cognitive disorders, popularly known as illusions and hallucinations.

**Illusions:** It is defined as a distorted or false perception of an existing thing or matter; e.g. it is a usual occurrence on summer sunny days, for high way drivers to see layers of shinning

water in front of them, right in the middle of the road, extending for miles and miles. Now, a question arises in our mind that why, after all illusions occur and in what circumstances! They take place, either in a healthy person or in a mentally sick person, when the cerebral hemispheres and its working are obliterated or reduced. At that time, the cells in the cortex are completely or partially in a hypnotic phase.

**Hallucinations:** These are entirely imaginary or fabricated perceptions. Their main peculiarity is the complete absence of any real objects of perception or real stimulation of sense organs. Nevertheless, these false perceptions appear to be real and to have external projection. The imaginary objects perceived, occupy the same position in space as real objects and finally are so apparent to the perceiver that he relishes no doubts about the authenticity and reality of what he sees, hears or experiences. It results from mental derangement. They can be of elementary nature or they can be very complex in intensity. However, elementary hallucinations are less serious as compared to complex ones. Seeing sparks of light, hearing crackling sounds etc. are elementary hallucinations. These experiences normally take place even while the perceiver is in total wakeful state. Complex hallucinations are of serious nature, they are of things and scenes of events. They also may occur in apparently wakeful state. The most common classifications of hallucination are by auditory, visual, olfactory and gustatory sensory organs. The sufferer or the perceiver of hallucinations believes of having heard a voice commanding him to do something or not to do it. It occurs when the cerebral cortex is in a transitory state of hypnotic phase, when the cells in the cerebral hemispheres pass from the state of wakefulness to partial or total inhibition setting over the central nervous system.

**Delusions:** These are false opinions and beliefs, born of morbidity, which does not correspond, with the true position of things. They always have morbid basis and are distorted, perverted reflection of objective reality.

**Hypnosis:** It is a state resembling normal natural sleep in which the subject or the person who is hypnotized is responsive to the suggestions made by the hypnotizer or the hypnotist. Thus hypnosis, the artificially created inhibition concentrated on certain particular cerebral centers, is governed by a conditioned reflex while natural sleep is the result of string-pulls stage managed by unconditioned reflexes!

**Analysis of various terminologies:** All these mental conditions, viz. Sensations, Perceptions, Conceptions and Judgments used in this context are the results of certain peculiar working states of the Central Nervous System. The brain activity that reflects the objective reality in the outside world begins with **Sensations**. Brain does not react directly with the objects outside, but it acts through receptors called sense organs. Sensation is the primary mental condition induced by the cerebral cortex through stimulations received by sensory nerve endings. It is the initial stage of cognitive activity and is very elementary in nature because a sensation does not portray the object as a whole but reflects the individual qualities like white, soft etc. When we talk of white or soft, it indicates only one of its several properties, based on an elementary visual sensation. The process of reflection of objective reality does not stop at the initial stage. A person perceives not only the individual qualities of an object but the object itself as a whole. The process of mental activity by or through which the entire complex phenomena are reflected, involving unity and judgment, not only individual properties but also the object in its totality, is known as **Perception**. Everything we see, hear or feel, are reflected through the act of perception. The process of forming separate and abstract ideas is identified as **Conception**. Conceptions can also reflect qualities which cannot be amenable to sense organs. Without words concepts cannot exist. Only human



beings could have concepts because they only have developed second signal system. Concepts are foreign to animals and birds. Matter, modesty, theism, atheism, etc. are expressions of concepts. Perceptions, images and conceptions are formed in the brain. These do not themselves complete the cognitive function of the brain. These functions have got to be assessed and adjudged. There comes '**judgment**' for the rescue. Judgment establishes the relation of the objects and phenomena of the reality on the basis of percepts, images and concepts. This is the final stage of cognitive function. The expressions such as 'Sky is blue', 'it will rain today' are expressions of judgments.

Fundamental duties in Part IV A, the article 51 (A) h of Indian Constitution states that "It shall be the duty of every citizen of India to develop scientific temper, humanism and the spirit of inquiry and reform." It means the fundamental duty is observable by all citizens of India, be they scholarly or illiterate, with the objective of benefiting the nation. To develop the **Scientific Temper** means to learn the scientific methods and attempt to make logical contributions, leading to a prosperous and enlightened nation, be this done professionally, as a hobby or may be occasionally. To develop **Humanism** means to promote the well-being of one's fellow citizens, the guests (as mentioned in our ancient literature **Atithi Devo Bhav**) and if possible the aliens in distress. To develop the spirit of **Inquiry and Reform** means to remain vigilant towards anything illegal or prima facie improper, of social importance, and to report or pursue the necessary information and action to the best of one's capabilities so that such activity can be checked.

In the year 1925, a teacher in Tennessee named John Scopes was tried and convicted for teaching Darwinism. It was considered unlawful to teach any doctrine opposing divine creation. Eighty years down the line, the debate continues to rage in some segments of society in the Western world. A major debate on "Intelligent Design Vs Evolutionary Science" kick up a lot of dust in United States during the onward march of humanism in the year '05. However, a Pennsylvanian judge closed the debate with his proclamation that Intelligent Design is not a subject to be taught in Science classes.

When human beings dreamt of flying like the birds, they invented the airplane. And when they set their sights to outer space and much beyond to the Moon, they came up with spacecraft that fulfilled their journey towards Chandamama. Since long, scientists have also been looking at the Sun and dreaming of ways to replicate its energy-generating mechanism. Scientific evolution has conditioned human minds to seek some meaning and higher purpose in the vast expanse of the Universe. Since the dawn of civilization, science has gradually refined and advanced our understanding of the physical universe. No doubt, most of us are traditionally brought up on a diet of religion and rituals. But, it will be wise not to let our religious orthodoxy come in the way of scientific temper and progress. Some day in the distant future, there may be inventions that will be able to sense the Intelligent Designer and mankind may then be able to communicate with this Intelligent Designer and find an answer to the ticklish question – What happened before the Big-Bang?

Here, Haw king's statements need to be addressed. Although it is not original with him, it is this: "we are such insignificant creatures on a minor planet of a very average star in the outer suburb of one of a hundred billion galaxies. So it is difficult to believe in a God (Intelligent Designer) that would care about us or even notice our existence." There isn't any evidence to date that life exists anywhere else in the universe. Human beings, thus far, appear to be the most advanced species in the universe. To prove ourselves positively is the need of the hour.



Science lovers are imbued with a scientific temper, question whatever does not appeal to reasons and therefore have a free mind. Love of science encourages openness and inquisitiveness. A questioning mind does not accept anything as infallible truth. Nothing is acceptable unless it passes tests, verification, comparison, analysis and further analysis. Dogmas and superstitions are anathema to a lover of science. Knowledge is nobody's preserve, nor are the lines in the Vedas sacrosanct (i.e. that can not be violated or altered); even Veda (it is a Sanskrit word which means knowledge) teaches us "Sa Vidya Ya Vimuktae" (That means i.e. knowledge which makes us liberal). Yesterday's truth may turn out to be today's falsehood and today's unverifiable thesis may be a verified fact of tomorrow. Sometimes, some views may not be acceptable to some people for some reasons. A fact valid within one frame of reference may be invalid in another frame of reference. That is the relativism of knowledge. One who knows it, would not quarrel over differences of opinions nor kill another who does not subscribe to one's religious belief.

The Intelligent Designer, if at all it exists, we should dare to study its mind - if it is there, may have rested after the creation but mankind shall not rest and should continue the quest till an answer is achieved. That is what the purpose of Scientific Temper all about - that is what the concept of Scientific Temper teaches us.

**Nihar Ranjan Acharya**  
Founder/Director, TRUST

### Comments on the article

#### "Was Veer Savarkar Really Veer?" (Jul-Sep 2009 Issue)

*Justice Jahagirdar seems to be badly prejudiced against Barrister Savarkar. On page 23 he used the word "Diaspora" which I could not find in Oxford Concise Dictionary. I request him to explain this to me... "Hagiographers" is yet another word in his article that stumped me. Hope, he will do me a justice by explaining to me either by a letter or in T & A. (Diaspora means Dispersion from the homeland or home place specially used for Jew's displacement from their own country. Hagiographers are biographers of saints. The word is derived from hagiography which means a worshipful or idealising biography - Editor)*

*Mr Jahagirdar's story about Savarkar's outrage of an English girl and his jail for 4 months in 1908 is totally new to me! Barrister Asaf Ali who was a member of Savarkar's Abhinav Bharat right from its inception gives a different story altogether. He says that due to Savarkar's attractive looks he could have easily enticed the fair sex in England; but as his MOTHERLAND was the dearest to him, he never was prey to the other sex! If what writer states is correct, I request him to supply me or publish in T&A. Dhananjay Keer's writing, Early Savarkar's jump in the sea was only physical act in the cause of freedom, according to the author. I think this statement is totally unjust, it comes from a justice though! Savarkar's whole life was not only dedicated service for the freedom of India but also India's uplift from social injustice apparent in blind faith and despicable custom of untouchability! "The rebel became a person of loyalty". This is what the author has said about Savarkar's whose life does not show his loyalty to alien rule! Expression of pardon could have been a matter of policy, only for release from jail. I feel the author's remarks are totally unjust.*

*Savarkar was a VEER not only because Mrs Bhoptkar said so, but people called him so! The writer prejudicially and unjustly denies him the popular epithet. How anguishing! Brahmins alone are not the praise singers of Savarkar as arrived by the author! One Maratha slapped a Christian in Thane because the later spoke ill of Savarkar! I think this article be published in all prominent newspapers, especially in Marathi, for eliciting public opinion.*

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## Prayers Don't Work

Last year, Kara Neumann died of juvenile diabetes. Her death was slow and painful, and entirely unnecessary — her parents believed in the power of prayer and allowed her obvious symptoms to go untreated except for entreaties to an invisible and inert god. They weren't opposed to technology in general, since they did send out an email to an online ministry requesting 'emergency prayer', but they did neglect the only technology that mattered, a simple injection of insulin.

There was some concern at that time that there was actually a loophole in Wisconsin law that seems to say that Christianity was a treatment comparable to modern medicine. Fortunately, the jurors in the trial of the parents saw the neglect that led to the death of their daughter, and convicted the Neumanns of second-degree reckless homicide. I don't think the father helped his own case with his sincere testimony.

Neumann, who once studied to be a Pentecostal minister, testified Thursday that he believed God would heal his daughter and he never expected her to die. God promises in the Bible to heal, he said.

"If I go to the doctor, I am putting the doctor before God," Neumann testified. "I am not believing what he said he would do."

He believed. He was theologically informed. He was a member of a church (even if it is an insane organization). He was missing one important thing: the awareness to question. And for that, a young girl died. Religion matters, all right, it matters in an evil way.

Prayer doesn't work. Enshrine it in the law — prayer is not a helpful action, but rather a neglectful one. Teach it in the schools — when the health class instructs students in how to make a tourniquet or do CPR, also explain that prayer is not an option. Faith in prayer kills people.

The Wisconsin parents who allowed their daughter to die in a diabetic coma because they believed prayer was sufficient aid have been charged with second degree reckless manslaughter. That seems about right to me.

Read this account of the progression of their daughter's disease, and ask yourself at what point you would be taking her to the doctor, if she were your child. At some point between the first and second paragraph, I would have been rushing her to the emergency room; round about the third or fourth paragraph, I would have been *freaking out* and screaming into a telephone for an ambulance. They just let it go on and on, getting worse and worse.

Dale Neumann said on the Friday before his daughter died he noticed she was "a little more tired," but that she ate a McDonald's meal without any problems. By Saturday he noted the girl "seemed to act like she had a fever" while her breathing seemed a little labored.

Meanwhile, Leilani Neumann told police that by Saturday, "Kara was laying on the couch. Her legs looked skinny and blue. I didn't realize how skinny she was. We took her to my bed where I got her warm. I thought it was a spiritual attack. We stayed by her side nonstop and we prayed.

"I asked Kara if she loved Jesus and she shook her head yes."

Later Saturday, "Kara got up to go to the bathroom and fell off the toilet," Leilani Neumann told police.

Dale Neumann told police he thought his daughter was getting better on Sunday but that at one point he tried to sit her up but she was unable to remain up.

The investigator said he used the term "unconscious" to describe the girl's condition, according to the report, while Dale Neumann "preferred to say that she was 'in sleep mode.' " Dale Neumann said Kara couldn't communicate and wasn't taking any water.

Randall Wormgoor encouraged Dale Neumann to call for medical help but the father "said he remained confident and steadfast in his belief that prayer would heal Madeline," according to an interview Dale Neumann gave to police.

Dale Neumann said he heard a "commotion" coming from the room where his daughter was lying down and that he began CPR efforts. One of the Wormgoors called 911.

Note that it wasn't even the parents who called for emergency help — it was a visiting friend. And professional help wasn't requested until she was dead. The Neumanns would no doubt have gone directly from neglecting their daughter to calling their local ~~witch-doctor~~ priest to carry out the funeral ceremony.

The Neumanns have three other children. They've been taken away from them. That's good, too, given these statements.

Dale Neumann told investigators that "given the same set of circumstances with another child, he would not waiver in his faith and confidence in the healing power of prayer," according to the interview statement.

Police also said an e-mail Dale Neumann sent at 4:58 p.m. on March 22, the day before Kara's death, showed that the parents were aware their daughter was very ill. The subject line of the email was: "Help our daughter needs emergency prayer!!!!" The e-mail was send to Americas Last Days, an online ministry run by David Eells. Right. If you want concentrated stupidity so dense that it has turned into evil, check out that vile website, although it does rightly and horrifyingly point out a catch in the law.

Wisconsin law states: "A person is NOT guilty of an offense under this section solely because he or she provides a child with treatment by spiritual means through prayer alone for healing..." Also it states: "No law of this state regulating the practice of medicine and surgery may be construed to interfere with the practice of Christian Science. A person who elects Christian Science treatment in lieu of medical or surgical treatment for the cure of disease may not be compelled to submit to medical or surgical treatment." This section appears to refer to the application of Christian Healing as "Christian Science," since no reference is given to indicate it means a particular denomination such as the "Church of Scientology." And the writing of any law to protect only one denomination would violate the equal protection guaranteed under the constitution by protecting one sect over another.

In other words, the religious have an exemption that allows them to murder their children. "Americas Last Days" thinks this excuses the parents; to me, it says that Wisconsin lawmakers should feel obligated to change a wretched loophole in the law that opens the door to the abuse of children.

Nothing excuses the lethal cruelty those parents exhibited to one of their kids

■

## Soul and Other Mysterious Phenomena

### Cases of Re-births, claimed as Proof of presence of 'Soul'.

Across the world many cases of rebirths have been recorded. There are persons remembering their previous lives and describing with minute details the events that have occurred centuries ago. Not only in India, where rebirth is accepted as a routine phenomenon after deaths, even in Western world many people have recorded hundreds of so called authentic rebirths and this is regarded as definite proof of the existence of Soul.

Many of these cases are self-narrated by the persons themselves and most of them are fake as proved by Dr Abraham Kovoov, way back in 1970s. Other stories are brought out by a psychiatrist or a hypnotist, by a method known as "Hypnotic Regression".

In U.S.A. in 1952 this type of work was started with 'Murphy' case. Later there was a wave to find out such cases. Dr. Brian Vis pioneered the technique of Hypnotic regression. In this procedure the person, under hypnosis, is instructed to go behind in his/her life and remember and narrate occurrences he/she has experienced few years before. He is told, "now you are 14 years old, tell us what you are doing, what you are seeing, what you are talking etc". Then he/she is told "now you are 5 years old, tell every thing". Thus the person is asked about the period of birth and later asked about where you were before the birth. What ever the person is talking is recorded and if the person talks about previous births it is said to be evidence of rebirth. Dr. Vis recorded hundreds of such cases and wrote 3 books which became very popular.

In England Arnall Bloxham prepared 400 video tapes of such cases which were broad-casted on BBC by Iverson. One of the most convincing cases was that of Jane Evans who in 1970s, recounted six past lives to Bloxham. One of her previous births was from year 1450. She gave minute details of happenings of almost 500 years ago, narrating not only of the events but also of the paintings on the walls, clothes worn by the queen, menu on the dining table and so on. This was verified by Iverson who was then convinced about the genuineness of the case, and declared that this is the case of rebirth.

But later another writer Melvin Harris proved that what Evans was narrating was from a historically accurate novel about Roman times, a book published in 1947 by the writer Louis de Wohl. Evans was describing exactly what was given in this book but has totally forgotten or lost the memories of reading this book few years before. Thus, Jane Evans was not a case of rebirth but was a case of so called 'Cryptomnesia' or forgotten memory.

In fact, in 1956, psychologist Dr. Edwin Zolik from Marquette University had already developed a special technique to find out the source from where those persons of so called rebirth got the information they were claiming to be from their previous lives. He took them again in Hypnotic Regression trance and asked them specifically to recollect the source of their information they have narrated in first trance. During this second trance they gave correct details about either the book they have read or the movie or drama they have seen or place they have visited as a child but have forgotten about that memory. These sources could be verified easily. This is how Cryptomnesia could be proved.

A psychiatrist from Finland Dr. Kampman used Zolik method to study all such cases of Rebirth and proved that all of them were victims of Cryptomnesia. One of his cases remembered being Dorothy, daughter of an English innkeeper who lived in Middle Ages

(around year 1500). At one point this Finnish girl sang an old song in authentic Middle English.

Kampman eventually found the song in 'The story of Music' by Benjamin Britten and Imagen Holst. The girl had read this book in childhood but forgotten about it.

Thus now it is proved beyond doubt that the so called cases of rebirth are either fake cases or are victims of Cryptomnesia and there is no role of Soul in these cases.

### **Xenoglossy**

Xenoglossy is the alleged speaking or writing in a language entirely unknown to the speaker. This is an unusual and shocking talent that sometimes is used as evidence for past-life or spirit mediumcy (Haunted by a spirit or a ghost).

This is also not true. These are also cases of Cryptomnesia. How can one speak in a language one has never learnt? The explanation is as under. The mind is a peculiar thing. When you walk down a street or enter a room, your senses pick up every piece of information. This is just like taking a photograph or shooting a scene by a camera or recording a speech by a tape recorder. Every thing present in the scene or in the surrounding sound is recorded by the machine. Similarly every thing seen by our eyes or heard by our ears is recorded in our brain. However, if all this information was also perceived by the conscious mind, we would be so overloaded by information that concentration is impossible. Hence, the mind acts like a sieve, filtering information not required for the moment in to the unconscious. That is to say that a language can be absorbed through repeated exposures below the level of conscious recognition. For example a child in a small town (where English is not spoken by anybody or taught in the school) watches a T.V. program or cartoon film in English language repeatedly for many days, even though he cannot understand the language, the fact is that, in his brain the English language is recorded at subconscious level and stored.

And it seems, these subtle skills may be manifested in extraordinary circumstances, through a phenomenon as Cryptomnesia, hypnosis or some mental disorder which can drag up much of this non required information and then the person can speak some language never learnt consciously by him, or can regurgitate such information as past lives. Additionally, most of the cases of xenoglossy reported are likely to be hoaxes, fakes or tricks.

Thus xenoglossy is also not a proof for the existence of Soul.

### **Gifted Children**

Many Children show extra ordinary talents at an early age. This was thought to be because of previous life's fruits or effects and therefore involved existence of soul in it.

A recent example given is of a girl 'Rimpa Shiva' popularly known as 'Princess of Tabla'. At the age of ten she was invited to perform in Norway and was awarded the Aran Land Rej Memorial Fund for her performance, which included a cash prize of Rs. 50,000/-. By the age of 14 she was performing all over the world. Is she a case of rebirth of a person who had died performing Tabla in last life? Are all gifted children rebirths of some talented and intellectual persons who had died in performing great things which they could not complete in their previous lives and had to be reborn again to complete their tasks?

This is not so. Now it is conclusively proved that giftedness in children totally depends on two factors 1) Heredity (Nature) & 2) Environment (Nurture)

Heredity (Nature) involves the characteristics of the genes a child receives from the parents. A



gene is the basic unit of heredity in a living organism. Genes hold the information to build and maintain their cells and pass genetic traits to offspring. In fact gene is the only replicator in living systems. This means that only genes transmit their structure largely intact and in the form of their copies, are potentially immortal (and not the 'Soul'). A gene is a sequence of DNA (deoxyribonucleic acid -a chemical substance) that contains the genetic instructions used in the development and functioning of all known living organisms and some viruses. The main role of DNA molecules is long term storage of information. Another important property of DNA is that it can replicate, or make copies of itself.

If any of the parents or both of them are talented or possess specific virtues or skills, due their genes, the child inherits them and those genes can show their effects early in childhood. In case of Rimpa Shiva her father Prof. Swapan Shiva was himself a best Tabla performer and eminent teacher of the Farukhabad Gharana. From him, his daughter got the genes of playing Tabla.

Environment (Nurture) - Genetics only is not enough to develop the giftedness. The environment and the conditions in which the child is brought up, the education it receives and the facilities made available to the child are equally important in bringing out the giftedness of a particular talent. Again in case of Rimpa Shiva, from the age of three she was watching studiously her father giving lessons in Tabla performance to his students. Noticing her mastery on certain aspects of the instruments, at the age of nine, her father started giving her regular lessons. This means Rimpa Shiva had both Nature and Nurture playing part in her giftedness.

Many scientific studies, especially of Uni-ovular twins have been conducted across the world and have amply proved this fact; only debate going on is how much role (percentage wise) is played by nature and how much by nurture. Thus giftedness has nothing to do with previous birth or presence of Soul it totally depends on genes the child receives and how he/she is nurtured.

### **Déjà-vu**

'Déjà vu' means experience of being in a completely new situation (or place which we have never visited) but at the same time having a strong feeling that we have already experienced exactly the same thing at some time in the past. The feeling usually only lasts for a moment or two.

Scientists do not dispute that the experience of 'déjà-vu' (French for 'already seen') exists, but unlike some spiritual people who believe that such experiences are fragments of memory from previous existence or life, scientists consider it a kind of malfunction of the brain. According to research, when a person has an experience, his or her mind will search for similar experiences that have been stored in the memory archive in an area of the brain known as the hippocampus. During this process it may be the case that even though there is no matching memory, the brain incorrectly reports that there is. It is at this point we feel that we have experienced something before, even though we haven't.

### **'Out of Body' and 'Near Death Experiences'**

Many times when the patients are undergoing surgeries or having cardiac arrest due to some other causes, are on the brink of death but if successfully revived, remember to have experiences as if they were floating in the air and watching their body lying on the operation



table. Such experiences were thought to be due to the soul temporarily going out of body but again returning to the body.

But now it is conclusively proved that these types of experiences can be reproduced in anybody, by stimulating a particular part of the brain known as superior temporal gyrus which tells us about the position of our body in the space, (spacial or spatial Orientation) whether we are standing, lying down, tilting or in a head up or head down position. This spacial orientation needs feedback and information from many sensory organs of our body like the tactile sensation from the skin, visual input from eyes, and information from an organ in the inner ear known as labyrinth which gives us our sense of balance. Labyrinth contains three fluid filled semi-circular canals arranged at right angles to one another. We are given the information about our spacial position depending on the position of fluid levels in these three canals which keep on changing by change of position of our head and movement of the head. Information from all these three sensory organs is first recorded in their respective fields in the brain and then sent to superior temporal gyrus for processing which then gives information to our conscious mind about the position of our body in the space. We get vertigo if there is inflammation of the labyrinth (Labyrinthitis) when the fluid in these canals increases and sends abnormal impulses to superior temporal gyrus resulting in vertigo. Any malfunctioning of this complicated process of balancing and spacial orientation can give us the out of body experience.

This phenomenon was accidentally detected in a patient undergoing brain surgery in USA for severe headache and loud abnormal noises –ringing of bells- in his ear. When his superior temporal gyrus was stimulated by an electrode he felt that he was floating in the air while his body was lying on the table. To prove that this is the cause of ‘Out of body experiences’ this procedure of stimulating the superior temporal gyrus was carried out on healthy volunteers who also experienced similar kind of ‘Out of the body experience’. Thus now it is proved by scientific studies that ‘Out of body experiences’ are due to malfunctioning in the brain and not due to ‘Soul’ going out of body temporarily, looking at the body from above and again returning to body so that the person can then narrate his experience to others!

### **Soul and Intelligence**

It was thought that because of the Soul, knowledge, thinking, imagination, problem solving, memory, creativity, and various moral and religious functions are possible. Body on its own cannot have any experience. Feelings of pleasure, pain and liberation are to be had because of soul only.

But this is not true. All these attributes of the mind and brain are due to the evolution of the human brain from simple reptilian brain over the period of 400 million years. Now the functions, structure and the working of a human brain have been studied in great details including the chemicals responsible for the functioning of the brain. Thus it is conclusively proved that all the functions of the brain, the mind, the conscious and subconscious memories and the intelligence all are simple mechanical, physical, chemical and biological happenings which can be recorded by use of sophisticated gadgets like, EEG, PET scan etc. and have nothing to do with the Soul.

### **Supernatural Powers**

Many people claim to have super-natural powers, healing touch, having ‘revelation’ and they claim to do miracles. All these acts and claims are false, malicious or psychological aberrations.

In 1974, one person named Uri Geller, the sleight-of-hand juggler from Israel, appeared on a Television show where he seemed to bend several spoons without applying any force. He claimed that he has supernatural power of mind, a phenomenon known as 'psycho kineses'. For many days people believed in it, and because his acts could not be explained on scientific basis, termed it as 'Geller effect'. This was only because Geller succeeded in hoodwinking Johnny Garson, Time and scientific American magazines, Barbara Walters of the NBC, and several other eminent scientists. But when challenged by, the father of Indian and Shri Lankan rationalist, Dr. Abraham Kovoor, offering him an award of \$16,000 he did not accept the challenge.

When the highest paid woman journalist of the world, Barbara Walters, who was responsible for televising to the world Uri Geller's so-called psychic feats, interviewed Dr. Kovoor in Shri Lanka, he performed the same feats and many others, performed by Sathya Sai Baba. He proved her that what paranoid writers like Patanjali of old (300 B.C.) and Aurobindo, Kuvyalananda, Dr. Vasant Rele, Sir John Woodroffe, R. E. Ornstein, M. P. Pandit et al, in recent years, claim that man can acquire psychic, para-psychic and mystic powers through mantra, tantra, yoga and meditation was all false!

The question remains why at all, millions of people go to such people like Gurus, Babas or Swamis and become their disciples? Are they all fools? The reason is they feel 'better' temporarily when they go to such claimers, because of production of substance called Endorphin (having property like opium) in their brains which gives the people temporary feeling of wellbeing, like a Peg of alcohol or a pinch of opium or any other narcotic material. Same thing happens when people pray, go to pilgrims, recite mantras, do yoga, do 'Bhajans' or dance in front of their deity. As narcotics, these people become addicted to such acts which produce endorphin and to get that momentary happiness, they have to keep repeating these acts.

Another way of making people 'feel good' is the method known as 'Catharsis'. In this people are asked to repeat particular action for hours together when they become tired and exhausted and then get the feeling of extreme relaxation. They are asked to recite particular words loudly for hours like 'Om Namas Shivay, 'Jay Gurudeo, etc, they are asked to concentrate on something like a bright spot, or do hyperventilation as in Sudarshan Kriya or Bhasarika or Kapalbhathi, or simply dance till you collapse. All these actions give temporary relaxations but never solve any problems and they have nothing to do with spirituality or supernatural power. These are all the ways to fool the gullible masses by many cults and rouges who call themselves spiritually enlightened.

Maharashtra Andha Shraddha Nirmoolan Samiti has declared a cash prize of Rs. 21, 00,000 to anybody who can prove supernatural powers. Nobody so far could claim this prize. Similarly, in America James Randi has declared a prize of one million dollars to prove these powers but no body could get it.

**In conclusion on the basis of present scientific knowledge it could be proved beyond doubt that there is no Supernatural power in the world, and no Soul! (And for that matter not even God)!**

Dr. R. P. Tongaokar



## Science, Superstition and Supernatural

To talk of superstition in 21<sup>st</sup> century may sound quixotic. But, alas, it is not so. Superstition is not a windmill. The present writer, sitting in Mumbai, is faced with number of superstitions. Maharashtra is regarded as an advanced and liberal State. But it is in Mumbai, some years ago, the story of idol of Ganapati drinking milk originated and spread, through internet, to different parts of the world where Hindus lived. It is only a few days back, the birthday of “Shani” was observed in a village and it was attended by thousands of devotees. If Saturn is “Shani”, it was remarkable that Shani’s birthday is fixed because the scientists have not been able to calculate the birth of the Universe except saying that it was about 14 billion years ago. Even now our rulers go to temples and other places of worship to invoke the blessings of god or gods. The massive celebrations of Ganapati festivals all over India and especially Maharashtra, indicates that we have not imbibed scientific tempers, despite Article 51A of our Constitution. It is; therefore, appropriate to refresh our memory regarding science, superstition and supernatural events.

I will be describing science and scientific method shortly, but before that we must know what superstition and supernatural events are. Saint Paul said that faith begins where there is no evidence. In other words, faith is a belief in a fact without any evidence for it. How is it different from superstition? Concise Oxford Dictionary describes it “credulity regarding the supernatural; an irrational fear of the unknown or mysterious; ...” Superstition has a close connection with the supernatural which itself has been defined as state of mind attributed to or thought to reveal some force above the laws of nature. It is something magical or mystical. Superstition and supernatural thus overlap each other. Everything that is superstitious is not supernatural but everything that is supernatural is superstitious. *Encyclopedia Britannica* points out that superstitions are of various kinds. In the first place there are religious superstitions – prayers, fasting are religious superstitions. There are then cultural superstitions which vary from country to country, from region to region. Number ‘13’ is regarded as inauspicious among Christians as Judas was the thirteenth person at Last Supper. Similarly, number ‘3’ is regarded, in Western countries, as inauspicious whereas among the Hindus it is mandatorily good omen or auspicious. Hindus circumambulate God or any holy place three times. Normally holy water (“*teertha*”) is taken three times. In my opinion, every religion is organised superstition. Test any tenet of religion on the anvil of present day knowledge and you will find it superstitious. As J.B. Bury has pointed out: “If the story of Noah’s ark and flood is true, how is it that beasts unable to swim or fly inhabit Africa and the islands of the ocean? And what about the new species which were constantly being found in the New World and did not exist in the old? Where did the Kangaroos of Australia drop from?” The “*Vishwaroopadarshan*” in Chapter XI of Bhagwad Gita is hopelessly contrary to the solar system as revealed by science.

“*Yajnya*” is a common superstitious practice in this country. “*Yajnyas*” are performed so that India might win a cricket match; there will be good rains or even a couple may have a child or a son. Different religions have different beliefs. They are characterized as peripheral beliefs as they are not central to the religions. They are in one sense cultural.

There are cultural superstitions which are unlimited in number and variety. They vary from country to country, from religious groups to religious groups and from region to region. I have already pointed out the practices surrounding numbers ‘13’ and ‘3’. Among the cultural

superstitions may be mentioned the preference of stones of a particular colour, wearing of amulets or rings, the dread of “*mangal*” in horoscopes.

Then there are social superstitions, the basis of which it is difficult to guess. The colour of clothes, particular pens, beliefs in the directions, “*Vaastu Shastra*”, etc.

Why to object to such innocuous beliefs? An irrational practice indulged in repeatedly by an individual or a society debilitates that individual and that society. They present a grave threat to the rational basis of human society. A great hazard lies in the erosion of reasoning capacity of human beings, being an impediment to social and human progress. Another danger is that repetitive acceptance of superstitions requires some guru or priest to interpret them. This is putting the clock back.

Readers do not need a long dissertation on what science is. Nevertheless, it is better to refresh one's knowledge. The most common meaning of science is a body of established, verifiable and organised data secured by controlled observation, experience or experiment. The scientific method is the method followed in obtaining such data.

At one time when the world was in the thralldom of Aristotle, it was thought that knowledge is obtainable by deduction only. It was Francis Bacon who thought that Aristotelian system of predominant deduction hampered the progress of science. In his book “*Novum Organum*” he proposed the inductive study of nature through inductive reasoning, experience and experiment. Will Durant called this book “as the firm clear for an Age of Reason” (Age of Reason Begins, p.174). But neither deduction nor induction itself was always sufficient. A scientist formulates a theory which he repeatedly tests to confirm that it is correct. Michael Faraday said:

*“The world little knows how many thoughts and theories passed through the mind of the scientific investigator have been crushed in the silence and secrecy by his own severe criticism and adverse examination that in the most successful instances not a tenth of the suggestions, the hopes and wishes that the preliminary conclusions have been realized.”*

(cited by Karl Pearson in “Grammar of Science”)

That is the method of science – the scientific method. There is nothing esoteric in science.

At one time when smallpox was prevalent (now it is eliminated all over the world), it was thought that smallpox was an infliction from a Goddess. In India it was called a “*Devī*” and in Mumbai a temple was erected to “*Sheetala Devī*”. An interesting incident is worth mentioning. Dr. Edward Jenner of Scotland asked his milkmaid why she has not got smallpox when people of her class had all got it. Her answer was simple: “Doctor, I have got cow-pox and so I cannot get small-pox.” The doctor thought that one who has got cowpox – a smaller infection – would not get the larger infection, smallpox. This was his observation as also of Sarah Nemes, the milkmaid. Dr. Jenner took small matter from her infected hand and inserted it into the arm of a boy called James Fibi who was later found to be immune to smallpox. This was experiment. Observation and experiment. That is scientific method. But still *Sheetala Devī* in Mumbai is being worshipped. That is superstition about supernatural.

Unfortunately, many men and women take recourse to amulets, application of oil or ashes to the body. They get well, as they should, in most cases. The experience is correct but the conclusion is wrong when they think they are cured because of amulets or ashes.

The scientist tries to get rid himself of all faiths and beliefs when seeking answer to any question. He does not depend upon or seek answers in revelations as religions have done. The man of science seeks evidence in the case of all traditions of beliefs and practices.

By supernatural, we understand information, beliefs, theories, claiming origin other than verified or verifiable experience or events contrary to known processes of nature. It is “out of the world”. Production of wine from water alone, resurrection of the dead, creation of the world – these are all supernatural events unverified and unverifiable. Old Testament tells us of the arrest of the sun through space so that the Jewish could kill a few more Canaanites. You will find many more fanciful fables in Bible, Ramayana and Mahabharata. These supernatural stories are to be found in all religious books. Some times we find a sprinkling of it here and there in social habits, customs, etc. King John I propounded the theory of divinity in Kings and divine right of Kings. Unfortunately, his son Charles I was beheaded and in due course democracy – the rule of the people – came.

Most religions have in common the view that sometime, somewhere God or Gods, supernatural beings, communicated to some man, who later came to be regarded as a Prophet, information on the origin and nature of man and the world. In all such cases, the revelations occurred so long ago that the person to whom these revelations were made has been buried and we cannot analyze the facts.

The most serious aspect of the supernatural is not the so-called revelations, but the miracles, the myths and guesses and the injunction that all this must be taken on faith; not to do so is forbidden, it is a sin. With the birth and progress of sciences, the revelations are found to be inaccurate and false. Yet people cling to them. The revelations have been of no assistance in the progress of the society and the world. Those revelations were guesses in the light of the then extant knowledge.

No doubt, today many “intellectuals” reject much of anthropomorphisms. So they have invented theory of intelligent design. They retain a distillate of the supernatural in the form of beliefs, or design or “moral purpose” of the universe. Is this superstition or belief in supernatural? After all, the world is a-moral.

The theory of personal immortality is to be found in *Karmavad* in India. It is partly mythological, partly supernatural, partly philosophical. The Bhagwad Gita teaches you that *atma* drops old clothes and acquires new ones. The body perishes; the *atma* survives. But it is the body which is born and which becomes “*bhasmibhoot*”. How are, then, the effects of one’s “*Karma*” visited upon a man? This internal conundrum is practically insoluble.

The ethics of supernaturalism may also be considered – not philosophically but from a common sense point of view. The ethics of science is simple: absolute honesty in recording and presenting data to arrive at truth. It is possible to argue that supernaturalism is an early attempt at learning about man and the world. We can have thus no quarrel with Jesus, Confucius or Zoroaster who did not talk of supernatural. But today to accept the prophets with revelations is not pardonable. It is impossible to condone the tyranny to which Galileo was subjected. Intellectual tyranny is as immoral as, or worse than, physical tyranny. The supernatural theories of sin, personified evil, redemption, eternal damnation, etc., do create disturbances in man’s emotional life and debilitate him in the long run.

Science nurtures inquiry; the supernatural stifles it. The two are obviously incompatible. To suppress inquiry, freedom of thought, quest for truth is itself immoral or unethical. Supernatural is a foe of science. So also superstition. Every superstition has a shade of supernatural in it; every supernatural is superstition. To a humanist who believes in autonomy of man, both are dangerous.

Justice R A Jahagirdar (Retd)



## Memoirs of a Rationalist

### Anthology of Articles on Rationalism, Secularism and Humanism

*Rationalist Foundation is a Trust, which aims to promote rationalism, is bringing out a book, **Memoirs of a Rationalist** written by Justice R A Jahagirdar. The book will be distributed as a complimentary copy to recognised libraries of various academic institutions, colleges and Universities so as to expose the young generation to rationalism, secularism and humanism. The following paragraphs give an idea about the content of the book.*

#### Introduction

The unbridled market oriented and regulated capitalist economy lacking human concerns seems to be finally plummeting. The global recession caused by it has set humanity rethinking in search of a new philosophy. That philosophy is Humanism, the philosophy of the Renaissance Movement. Humanism will have to be the philosophy of the 21st century that aims at moral and material progress of Humanity as a whole, ensuring a life of dignity and wellbeing for all.

To remove the economic and cultural disparities, the 21st century Humanism has to be Radical Humanism that is actively interested in the deprived and the downtrodden section of the society. Radical Humanists are more than mere atheists or rationalists. They have an integrated philosophy of universe, nature and life. They aim at reconstructing the society on the basis of reason and freedom; freedom of every human being making decisions with his own intellect without being pressurised by any agency other than himself or herself be it god, ideology, tradition, police, state, whatever.

In the current turmoil caused by global recession no economic theory or political ideology seems to be of any help. Only Reason can pull us out of this quagmire. We therefore thought it appropriate at this juncture to present the selected writings of the enlightened rationalist - Justice R.A. Jahagirdar- in a book form.

Justice R.A. Jahagirdar is a voracious reader and a prolific writer whose articles touch all aspects of life. Being a student of History and Philosophy (in addition to Law and Economics) and with an added ability of penetrating logical thinking he throws light on issues and happenings here and abroad. Out of his innumerable writings over a long period, we have chosen only the recent essays and articles as they happen to be more pertinent and crucial in the present situation. These articles have been published in prestigious magazines - Radical Humanist, Freedom First, Secularist and other magazines and are read by intellectuals. Our aim in publishing the present collection is to expose the youth, the social workers at grass root level like those engaged in "Eradication of Superstition" to Rationalist Thought. The book, therefore, has to be handy, affordable and not much time consuming for a field worker.

The trustees of the Rationalist Foundation express their great pleasure in presenting this handy volume, "Memoir of a Rationalist: Anthology of Articles on Rationalism, Humanism and Secularism" to the readers with the confidence that it will help sharpen their thinking and assist them to move a step ahead in becoming rational human beings.



## Preface

The philosophy of Renaissance was unknown to the Indians till the arrival of the British in India. But Rationalism is certainly not new to the Indians. The philosophy of the Charwaks is older than the Vedic philosophy. The Vedics tried their best to wipe out the materialist and secularist teachings of the Charwaks; yet it survived the onslaught. However the fact remains that although there had been any number of reformists and rationalist thinkers like Kapil, Kanad, Buddha, Mahavir, Mahanubhav, Dnyaneshwar, Tukaram, Ekanath, Agarkar, Ambedkar and Hamid Dalawaai the Indian society at large has remained superstitious. Of course this is true of all the religious societies all over the world. Everywhere one sees growing religious revivalism. One reason why religious revivalism dominates over rationalism can be that Rationalists fail to reach the downtrodden people at the grass root level.

The religiosity of the people is nourished by our shrewd priestly class and politicians as they need blind, unthinking followers and not those who have independent minds and the courage to express themselves. They will oppose all the efforts of the rationalists to eradicate superstition from the society.

In my opinion all the superstitions rise out of the concept of god. Unless this concept of god-the root of all superstitions is eradicated there is no hope of making any progress in the society. Exposing the various Babas and Buvas, their miracles or instances of possessions by ghosts and Bhanamati is necessary but it does not treat the disease that is superstition. The cause of this disease is god, the most mischievous concept that we ought to get rid of. For that Rationalism has to be taken to the grass root level.

The topics of discussion in these articles range from important historical events like the destruction of the library at Alexandria, Buddhism, to Evolution, Caliphate movement to the current topics like Freedom of the Press, Police Investigation, Terrorism, etc. Rationalism and its other side Humanism form the common binding principle of all these articles. Justice Jahagirdar puts every issue in its proper perspective by exposing and highlighting the facts hidden from the public by interested parties. For example, in the essay on Alexandria Library, he brings to light how the male chauvinist Archbishop of Alexandria, jealous of the erudite female mathematician-philosopher Hypetia (who was also very beautiful) engineers her assassination; and how the Christians spread the false story that Omar, the second Caliph destroyed the priceless library when the real culprit was saint Cyril. The other articles too, the reader will find interesting and helpful in developing an incisive rational approach.

Dr. Narendra Dabholkar

## Lord Buddha who lived in the 4th-3rd Century BC said:

Believe nothing merely because you have been told it or because it is traditional or because you yourself imagined it. Do not believe what your teacher tells you merely out of respect for the teacher but whatever, after due examination and analysis you find to be conducive to the good the benefit the welfare of all beings. That doctrine believe and cling to and take it as your guide.

■

## Parents Impose their Belief System on Children

*As president of the Indian chapter of the Centre for Inquiry, **Innaiah Narisetti** has come up with the controversial thesis that children's rights should include complete freedom from religious belief or conditioning.*

*He talks about the rationalist movement with **Manoj Mitta**:*

**Your latest book, *Forced into Faith*, has a rather provocative subtitle: 'How religion abuses children's rights.' How do you justify that?**

Child marriages are prohibited. Voting rights are denied to kids. The same restraint is, however, not observed when it comes to stamping children into religion. Parents treat their children as property and impose their belief system. It's time parents refrained from indoctrinating their children into their religious beliefs so that they have the freedom to adopt or reject religion when they become adults. The conditioning they suffer in their childhood renders them incapable of exercising choice in the matter.

**Why do you argue for a UN convention on what you describe as the religious abuse of children?**

The UN convention on children's rights adopted in 1989 is observed more in the breach. Though the UN has come out against child abuses like genital mutilation of girls and deploying children in wars, it is shy of holding religion guilty of polluting the minds of children with retrograde beliefs. Children accept without question whatever the parents dictate. They carry that habit into their adulthood. Leaders practising superstitions set a bad example. It was sad that somebody like Abdul Kalam, when he was president, thought it fit to touch the feet of Sathya Sai Baba. That to my mind was more outrageous than his being frisked at an airport for security reasons despite his former office.

**Is a rationalist necessarily an atheist?**

One need not declare that he or she is an atheist while thinking rationally. Scientific temper demands proof and evidence. The god proposition came from religious persons. The burden of proof lies with the proposer. If they fail to prove, the rationalists question the authenticity of the original proposal. All beliefs and superstitions about god are nice stories but there is no proof. All scientific rationality leads to atheism even if many do not actually opt for that word.

**"Pseudo sciences" like Vaastu, Feng Shui, astrology and tarot card reading seem to be growing in popularity. What explains the weakness for irrationality despite the growth in scientific knowledge?**

The reinforcement of belief systems from early childhood is the root cause for the present-day behaviour. When we fail to reason, when we face emotional problems, our weaknesses lead us to depend on unknown, superstitious powers. Lack of self-reliance, and not tempering emotion with reason leads us to blind beliefs. That is why we get pulled into alternative unscientific systems and religious rituals.

■

## We Are All Hindus Now

America is not a Christian nation. We are, it is true, a nation founded by Christians, and according to a 2008 survey, 76 percent of us continue to identify as Christian (still, that's the lowest percentage in American history). Of course, we are not a Hindu—or Muslim, or Jewish, or Wiccan—nation, either. *A million-plus Hindus live in the United States, a fraction of the billion who live on Earth. But recent poll data show that conceptually, at least, we are slowly becoming more like Hindus and less like traditional Christians in the ways we think about God, our selves, each other, and eternity.*

*The Rig Veda, the most ancient Hindu scripture, says this: "Truth is One, but the sages speak of it by many names." A Hindu believes there are many paths to God. Jesus is one way, the Qur'an is another, yoga practice is a third. None is better than any other; all are equal. The most traditional, conservative Christians have not been taught to think like this. They learn in Sunday school that their religion is true, and others are false. Jesus said, "I am the way, the truth, and the life. No one comes to the father except through me."*

Americans are no longer buying it. According to a 2008 Pew Forum survey, 65 percent of us believe that "many religions can lead to eternal life"—including 37 percent of white evangelicals, the group most likely to believe that salvation is theirs alone. Also, the number of people who seek spiritual truth outside church is growing. Thirty percent of Americans call themselves "spiritual, not religious," according to a 2009 *Newsweek* Poll, up from 24 percent in 2005. Stephen Prothero, religion professor at Boston University, has long framed the American propensity for "the divine-deli-cafeteria religion" as "very much in the spirit of Hinduism. You're not picking and choosing from different religions, because they're all the same," he says. "It isn't about orthodoxy. It's about whatever works. If going to yoga works, great—and if going to Catholic mass works, great. And if going to Catholic mass plus the yoga plus the Buddhist retreat works, that's great, too."

Then there's the question of what happens when you die. Christians traditionally believe that bodies and souls are sacred, that together they comprise the "self," and that at the end of time they will be reunited in the Resurrection. You need both, in other words, and you need them forever. Hindus believe no such thing. At death, the body burns on a pyre, while the spirit—where identity resides—escapes. In reincarnation, central to Hinduism, selves come back to earth again and again in different bodies.

So here is another way in which Americans are becoming more Hindu: 24 percent of Americans say they believe in reincarnation, according to a 2008 Harris poll. So agnostic are we about the ultimate fates of our bodies that we're burning them—like Hindus—after death. More than a third of Americans now choose cremation, according to the Cremation Association of North America, up from 6 percent in 1975. "I do think the more spiritual role of religion tends to deemphasize some of the more starkly literal interpretations of the Resurrection," agrees Diana Eck, professor of comparative religion at Harvard.

*So let us all say "Om!"*

**Lisa Miller**

Courtesy: *NEWSWEEK*  
(Aug 31, 2009)

## Does Science Refute Religion?

Science and religion both concern us, and intimately so. For, in the world of today, we cannot do without science, and religion has been woven into the very fabric of our society for centuries. But, then, you may ask, what *is* the problem? Indeed, there would be no problem if they—religion and science—complemented or supplemented each other. It turns out that they do not, even though many would like them to; some people even make valiant attempts to make it appear so, regardless of the truth.

What I would like to do in this write-up is to dwell upon this contradiction—that is, the contradiction between science and religion. What I hope to be able to show is that there is an *inherent* incompatibility between science and certain aspects of religion, especially the dogmatic part that gives a particular religion its identity.

### Evolution of Religion and Science

One may, of course, ask; why is it necessary to compare or contrast religion and science? It is necessary to do so for at least one important reason, that is, the fact that religion, all through the history of man, has attempted to answer the same questions as science has. The origins of both religion and science can be traced to the evolution of intelligence in man. Intelligence is just another name for the ability to ask questions. One can, therefore, surmise that, in the remote past, when man came to be endowed with intelligence, he must have asked himself questions—questions of at least four kinds. First, questions about the non-living materials he saw around him, such as water, air, earth and minerals. Secondly, questions about the physical phenomena he witnessed, such as light, heat, sound, thunder and lightning. Thirdly, questions about the extraterrestrial objects and phenomena he observed, such as the periodical rising of the sun, the moon and the stars; the passage of the planets through the various constellations and, of course, the eclipses. And fourthly, questions about the living things that he saw around him, for example, the recurrent phenomena of birth, disease and death.

All these phenomena, which now come under the purview of the four basic sciences—chemistry, physics, astronomy and biology—must, indeed, have intrigued early man. How did he then go about finding the answers? The method of science had not developed, and the whole logic and logistics that we have today for answering such questions, did not exist at that time. What did the primitive man then do? He used his intelligence to construct self consistent systems of beliefs such that once you accepted certain premises entirely on faith, and without questioning, answers that were plausible, at least at that time, emerged. It is this kind of effort that perhaps led to the development of religion, both pagan and codified—the codified religions including Hinduism, Buddhism, Judaism, Christianity and Islam. However, as the total fund of human knowledge increased, a time came when man began to *question* the basic premises of religion. Out of this questioning, perhaps, crystallized what we today know, formally, as the method of science. It soon became apparent that this method could not only be used as a tool which would satisfy human curiosity much more than religion had done so far, but it also opened up new areas for investigation that had so far been hidden or even prohibited. The phenomenon snow-balled from the thirteenth century onwards, and we had Roger Bacon, Leonardo da Vinci, Copernicus, Francis Bacon, Galileo, Rene Descartes and Newton, amongst others, to give new dimensions to the method of science—to the newly developed art of questioning. The answers that emerged did not demand acceptance on the basis of faith alone; moreover, they were testable and verifiable, and did not depend on the whims and fancies—or the likes and dislikes—of an individual or a group of individuals. Soon, science became a competitor to religion and, often, came into direct conflict with it. We

had in the 16th and 17th centuries, the conflict between Copernicus and Galileo on one side and the Church on the other. More recently, in the last century, the Church waged another major battle—this time against the Darwinian theory of evolution, which was so ably extended by Thomas Huxley to the evolution of man. As science opened up new vistas, religion soon became a hindrance to its progress, and led to the persecution of scientists. Copernicus had to recant because he said that it was not the sun that goes round the earth, but the earth that goes round the sun. Galileo, a follower of Copernicus, died under house arrest on account of holding on to Copernican beliefs. And, before Galileo, Bruno was burnt at the stake for reasoned dissent. As recently as a hundred years ago, Darwin and Huxley were laughed at by an uneasy Church for saying that man has evolved from ‘lower’ creatures, and not put on the earth as an act of creation. However there was a redeeming feature for science too. Whenever a conflict arose between science and religion, the explanation provided by science through the use of the method of science, was eventually *always* found to be more appealing to reason.

Science, therefore, grew up, so to say, as a competitor to religion, and the battle still continues on many fronts. Clearly, then, there is sufficient justification for comparing (or contrasting) science and religion.

Let us now get on to specific points of comparison and contrast. A good way to do so would be through a comparison of the definitions and the attributes that are widely accepted, of both religion and science—hoping of course that semantics will neither rule the roost nor come in the way.

### **Attributes of Religion and Science**

Religion is defined variously as service in adulation of God as expressed in forms of worship, a system of faith and worship, and an awareness or conviction of the existence of a supreme being that arouses reverence and the will to obey. The existence of the supernatural—that is, something which is beyond the laws of science—is implicit in religion, no matter what definition one accepts. In all religions, there is also provision for the supernatural to take the form of what appears to be natural. Thus, Messiahs or Avatars are born on this earth, and God takes the shape of man or even other creatures, as is supposed to be the case with some of the incarnations of Vishnu. It is this inherent belief that underlies religion, which has led to the emergence of various forms and shapes of godmen—be it Maharishi Mahesh Yogi, Shri Satya Sai Baba, Acharya Rajneesh, or what have you. These godmen would like others to believe that they have supernatural powers which cannot be understood by other men, and that their statements and actions must, therefore, be accepted by others without questioning. Science, on the other hand, does not accept the existence of a high priest, a godman or any other authority that cannot be questioned. In fact, science denies the existence of the supernatural and of miracles, which are the very essence of religion. One often witnesses or hears about events which, in the opinion of those who are religious, can have only a supernatural explanation—that is, an explanation outside the scope of the scientific method. In the view of science, all such events—assuming they have ever occurred {which, at times, is doubtful)—do have a scientific explanation, often simple and ingenious.

Religion is based on revelation. Indeed, revelation is *the* method of religion. Truth was revealed to, and not discovered by, all the religious leaders of the past—be it Moses or Mohammad, Christ or Buddha, Mahavir or Aurobindo. The method of science that the scientists use has no place for revelations of that kind. It consists of distinct steps: the framing of a question on the basis of careful observation or a careful analysis of existing data; the formulation of a *testable* hypothesis; the doing of experiments; and, finally, arriving at the



answer by using existing knowledge and logical reasoning. One may, of course, in certain circumstances, omit one or the other of the steps of hypothesis and experiment, but that is not really important. What is important is that the method of science has a built-in corrective and that the conclusions that one arrives at by using this method are verifiable and repeatable. For example, I can set up a time reaction in which two colourless solutions when mixed with each other at time zero, will turn violet all of a sudden at 24 seconds. It will take exactly the same time (within experimental error) for the mixture to turn violet, no matter who does the mixing— a child, a man or a woman; an Indian, a Chinese or an African; a Brahmin or an untouchable; a Punjabi or a Tamilian—and no matter what you may personally wish to happen. Neither a particular confluence of planets, nor the will of all the godmen in the world, can increase this timing of 24 seconds to, say, 44 seconds, or decrease it to, say, 4 seconds.

Another important attribute of science is that it allows one to make testable predictions. It was the scientists' ability to make predictions with considerable certainty and accuracy that allowed man to land on the moon. Indeed, in the one grand experiment that the first manned landing on the moon constituted, an enormous number of predictions made by scientists in a vast variety of fields came true. If one of these predictions had gone wrong, there would have been disaster. Science has, in fact, allowed us to predict chemical elements, fundamental particles, planets, biological species, and a host of other exciting new objects and phenomena. For example, the Great Russian chemist, Mendeleev, predicted, in the middle of the last century, the existence of the elements gallium, scandium, and germanium. For gallium, he said that when the element is discovered, it would be found to melt with the heat of the hand. Its melting point, when the element was actually discovered, was found to be about 30°C. Pauli, in 1930, predicted the existence of the fundamental particle, neutrino, which is now very much in the news. It was discovered in 1956. Murray Gellmann who, like Pauli, was awarded a Nobel Prize, predicted the existence of another exotic fundamental particle, omega minus, in 1962. This particle was discovered later by Samios.

The existence of planets, Neptune and Pluto, was predicted. In fact, in the case of Pluto, the exact place in the sky where it should be found, on the fateful night in March 1930 when it was discovered, had been correctly predicted. Darwin's theory of evolution predicted the existence of *Latimeria*, a fish, and *Pithecanthropus erectus* and *Oreopithecus*, two ancestors of man. Both the fish and the human ancestors were discovered subsequently—the fish as a live specimen and our ancestors as skeletons. Both were found to have the characteristics predicted by Darwin and his followers. Today, we can predict that elements with atomic numbers 114 and 126 when discovered will be found to be stable in contrast to all other trans-uranium elements, that is, elements with atomic numbers greater than 92, which have been discovered since 1940 and found to be, as predicted, unstable. In the entire history of religion there has not been a single such prediction, made on the basis of religion that has subsequently come true. Here is, therefore, an important point of contrast between science and religion: science can allow us to make testable predictions; religion cannot.

### **Dynamism of Science**

In science all truths are truths by consensus. Of course, the consensus has to be reached among people who are knowledgeable in the area concerned and have formed their opinion by using the method of science. The consensus must be arrived at after such individuals have verified the results personally, or satisfied themselves adequately about the validity of the experiments and of the logic which led to the particular truth. As time passes and the sum total of knowledge in the particular field increases, the chances that the initial agreement of opinion will prove to be wrong, of course, diminish. Nevertheless, I repeat, all truths at any given time in science are truths by consensus—a consensus among scientists. On the other



hand, religious truths represent an opinion usually of one religious leader, at most of a few. Moreover, these opinions are rigid. Changing them implies establishing another religion, or at least a sect. Therefore, a given religion, by definition, is static, unlike science which is dynamic and changes with time as more and more evidence comes forth. In fact, it is often said that science progresses by disproving. At least two Nobel Prizes were awarded for discoveries which were subsequently proven to be incorrect. However, in both these cases the persons concerned deserved to receive the Nobel Prize because, had they not made their discovery, the truth as we know it today, would not have been discovered at the time it was. Science is, therefore, evolutionary, which religion is not. Science has a built-in corrective, which religion does not have.

In science, a new theory must explain all that was explained by the old theory plus something that could not be explained by the earlier theory. The new theory, in addition, should be capable of making predictions which could not be made on the basis of the old theory, and some of these predictions should, indeed, have been tested and turned out to be right. For example, Einsteinian physics made predictions which Newtonian physics could not, and explained events and phenomena which the earlier physics could not. Thus, the inter-conversion of mass and energy, the bending of light in the presence of a large gravitational field, the existence of black holes, and the dependence of the mass of an object on its speed, were all predicted by Einstein and later on substantiated. None of these predictions was possible on the basis of Newtonian physics. That is why we consider Einsteinian physics an improvement over Newtonian physics from which it actually evolved. Contrast this situation with what is obtained in religion, where no religion can be said to be an improvement over any earlier religion. If you say something to the contrary—that one religion is an improvement over another—you might have a riot!

All new knowledge in science must be consistent with known and established observations. On the other hand, religious dogma (including the so called miracles, for example, the materialization of objects by the wave of one's hands) is often inconsistent with known and established observations.

Science progresses through modification of a part of the existing knowledge and not by replacement of the entire body of existing knowledge. A new religion, on the contrary, often attempts to replace fully the existing religions. The growth of scientific knowledge is a continuous process. Science is, therefore, evolutionary. A religion once founded continues substantially unchanged.

### **Religion and Science: Some More Differences**

Another important difference between science and religion is that while science is forward-looking, religion is backward-looking. For example, for the followers of science, the more modern the text, the better it is. On the other hand, religious texts on which the followers of religion depend are, generally ancient. In the case of science, the scientists of the present time matter the most; in the case of religion, *the founders* of the religion who lived in the remote past matter the most. For the followers of science, the events of *today* and the likely events of *tomorrow* are the events of the greatest concern; for the followers of religion, the religious events of the past are the events of the greatest concern. The techniques used in science keep on improving with time, and the impetus for this improvement comes from within the framework of the method of science. On the other hand, religious customs and practices do not basically change with time. Whatever changes are brought about are due to forces external to the religion—such as science itself.

An important attribute of science is the right to question. Knowledge advances and science progresses *because* people exercise their right to question. By contrast, religion demands an unquestioned acceptance of its tenets and dogma. If you question, it must be only to seek clarification and not to doubt.

A scientist can say without any feeling of guilt or shame, 'I do not know'. It would be disastrous for a religious leader to say 'I do not know'; he would simply lose his following. By definition he knows all. Every major religious leader of the past—the founder of every religion—had answers to every question that one may ever ask. Science would consider such a claim as hypocrisy and deceit.

### **Internationalism and Parochialism**

Another important difference between science and religion is that while science is truly international, religion is not. Scientists all over the world use the same method, that is, the method of science. They employ the same techniques, use the same materials, and publish frequently in the same journals. They are increasingly beginning to use the same language—that is, English—and they form a truly international community in which the professional links are at least as strong as any other link. Contrast this internationalism of science with the parochialism of religion. There are many religions and they differ from one another in many respects. The activities of a particular religion are carried out in isolation of the other religions: in fact, people of other religions are often prohibited from participating. There is little communication between various religions and, therefore, no common language. Religious customs and practices differ enormously, often fundamentally, from religion to religion. Religion, in fact, divides people while science unites them.

Having said all this, one may now ask 'what about values', which, indeed, are an integral part of all religions. Aren't they good?—that is, good for us. Indeed they are; but such values are not a special characteristic of any particular religion. They are, in fact, common to all religions. Every religion asks you not to kill your fellow men, to be kind to them, to care for them. Every religion prescribes human compassion, truthfulness, integrity and honesty. However, a particular religion receives its identity not from these values, but from its dogma. A religion bereft of its dogma is no longer a religion. It is, in fact, the dogmatic part of religion that contradicts science.

I must, here, of course, mention that dogma does not arise from religion alone. Custom, convention, tradition—occasionally science too—may lead to the establishment of a dogma. It is just that religion has been the most important source of dogma. Therefore, one is justified in saying that religion and science do not mix.

I must here also add that most values derived from religion that are universally cherished, are compatible with science. These values can be arrived at through a scientific argument as well. In fact, one advantage of using science and not religion as the basis of determining whether a value system is beneficial to man or not, is that in science nothing is immutable. Therefore, the scientific assay for a value system would allow a change in it—& change which emerges logically and naturally from the environment. Religion, by contrast, demands immutability of a value system.

### **Conflicting Views**

Towards the end, let me cite some specific examples of contradiction between science and religion. Today, we understand, reasonably well, what might have been the likely origin of the universe? It is generally accepted by scientists that the universe came into existence about 14

billion years ago, and they can trace the history of the universe backwards to nearly  $10^{42}$  of a second just after the event of its formation, called the 'Big Bang' by astronomers. In this scheme, there is no need to postulate the existence of God, as one must do in religion, unless we ascribe to God just one function: that is creation of the Big Bang. He would then have been rendered redundant after the first  $10^{42}$  seconds following the Big Bang as, later, the laws of science took over, over which he had no control!

Today, scientists can say with considerable certainty that life on our planet evolved from non-living materials. After the formation of our Earth, complex chemical substances were slowly formed from the simple chemical substances that were contained in the primordial atmosphere; such a 'chemical' evolution eventually dovetailed into the biological evolution leading to the appearance of our species on Earth. On the other hand, all religions demand the acceptance of the belief that man (and, in the case of some religions, other forms of life as well, including women) were put on Earth by God through a deliberate act of creation. Some of the religious leaders of the past were supposed to have been born through Immaculate Conception—an idea which is utterly incompatible with scientific truth about reproduction. And virtually every religion postulates some kind of life after death. The concept of soul is common to all religions. On the other hand, a scientist may ask the question: "Where has the soul been if you can bring a dead man back to life, as indeed you do when you take out the heart of a person and replace it with the heart of another person?" Soul and rebirth have no place in science.

### Scientific Laws

Today, it is possible to grow a whole plant from a single cell of the plant. Such cloning is, no doubt; theoretically possible even for higher organisms, such as man, and it is only a matter of time before it will be done. It is now also possible to fertilize a human egg with a human sperm in a test-tube, under controlled conditions. We understand a great deal of what happens during such processes. In fact, today, one can say with confidence that all phenomena associated with life and the life processes, must have an explanation in the laws of physics and chemistry. Indeed, if one can explain satisfactorily the life-associated phenomena, the extra-terrestrial phenomena, the physical phenomena, and the nature of the non-living materials, and if one can provide a scientific basis for values, where is the need for religion? On the contrary, history tells us that unquestioned acceptance of religion, and of all that religion demands, leads to perpetration of untruths. In contemporary history, it is religion that has wooed science and not vice versa. Maharishi Mahesh Yogi and so many others of his breed, all the time seek the blessings of science in support of their claims. Scientists never need to invoke religion in support of *their* claims. Scientific truths do not need a prop. Religion does—at least today!

To end, let me say that one important fundamental characteristic of science is that It is not evangelistic; it does not seek to convert people, unlike many religions. People must, therefore, be permitted their beliefs, religious or otherwise, in any free society, and I will stake everything to defend the right of every individual to believe in the religion he wishes—as long as his beliefs do not hurt others. However, to say that religion and science are compatible or that one derives from the other or supports the other must be considered wishful thinking at best and a travesty of truth at worst.

P M Bhargava

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### Letter to the Editor

- Johan Hari's article on religion is a right analysis of the subject.
- Jayant Narlikar's article on astrology throws light on the fakeness of astrology. At my earnest and humble request he visited me recently to my great pleasure. His unassuming manner of talking and behaving impressed me a lot.
- First Editorial of REASON by R.D. Karve rightly emphasizes the cause of REASON. I wish you would publish more articles by him in your issues.
- Ambarish K Diwanji writes nicely on superstitions which still holds sway on the Faithists' minds. I suggest one of your issues should be devoted to discussions on secularism.
- Dr. R.P. Tongaokar writes a long essay (on soul).
- I found bit difficult to follow Freedom from Foghorn.
- The necessity of Atheism by N.R. Acharya makes a good reading. His statement that atheism has basis, and a strong one too, even in archaic literature is very true; but who cares to know this? You are doing a laudable job in spreading All Reasonist ideas in your T&A.
- Ram Puniyani's article on Shiwaji is simply excellent! It shows how great Shiwaji was!
- Andrew Lyett writes on odd spiritualism of Arthur Conan Doyle. In this, he describes Conan's life more than stressing why his spiritualism is untenable. ... The article adds to the knowledge of your readers.
- Dark Nights by Priyanka Periera mentions some of the superstitions mentioned in my article. That makes me happy. ... Our TV serials are mostly encouraging blind faith rather than rational facts. Who will correct this?
- My article on superstitions: I did not understand your adding the words " Not my Cup of Tea" to the title.

May Reason triumph!

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